ORDER NO. APD 8812910

Service Manual

AUTO PRODUCTS

CQ-DV182A

AM/FM ELECTRONIC TUNING RADIO w/CD PLAYER

MODEL No. 191 035 196

SPECIFICATIONS*

Power Supply:	12V DC (11V~16V) Test Voltage 14.4V, Negative Ground
Tone Controls:	Bass; ± 10 dB at 100 Hz
	Treble; ± 10 dB at 10 kHz
Current Consumption:	1.0 A
GALA Effect:	100km/h + 6dB
	200km/h + 13dB
AM Radio	
Frequency Range:	522 kHz to 1,602 kHz
Intermediate Frequency:	450 kHz
Maximum Sensitivity:	12 dB/μV
Selectivity:	40 dB (± 9 kHz)
FM Stereo Radio	
Frequency Range:	87.5 MHz to 108 MHz
Usable Sensitivity:	5 dB/ μV at S/N = 30dB
Close Channel Response Ratio:	50dB (± 400 kHz)
Frequency Response:	30 Hz to 15 kHz (± 3 dB)
Intermadiate Frequency:	10.7MHz
Stereo Separation:	35dB at 1kHz
Image Response Ratio:	65dB

CD Player	
Frequency Response:	20 Hz to 20 kHz (± 1dB)
Wow and Flutter:	Less than measurement limitation
Signal to Noise Ratio:	80dB
Channel Separation:	70dB (1kHz)
Total Harmonic Distortion:	0.013% (1kHz)
Output Voltage:	3.2V (1kHz 0dB)
Dimensions:**	178mm x 149mm x 51mm
Weight:**	1.6kg

* Specifications and the design are subject to possible modification without notice due to improvements.

** Dimensions and Weight shown are approximate.

Panasonic

Matsushita Electric Industrial Co., Ltd.
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CQ-DV182A

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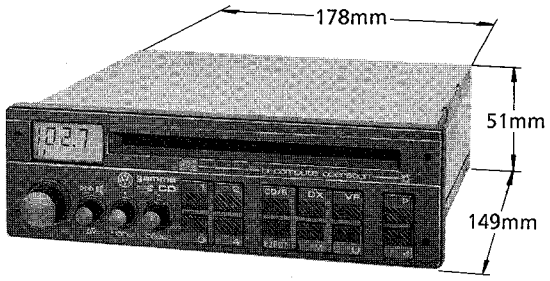
FEATURES

- Theft protection system.
- Backed by the PLL (Phase Looked Loop) Symthesizer system.
- Separate bass, treble Controls.
- INQ (Impulse Noise Quieting) Circuit
- 4-Stations for AM and 4-Stations for FM bands can be preset in the electronic memory circuit.
- Traffic -information broadcast Station SK/BK,DK reception.
- 1-beam pick-up system.
- GALA (Geschwindigkeits Abhängige Lautsärken Anhebung) control.

DIMENSIONS

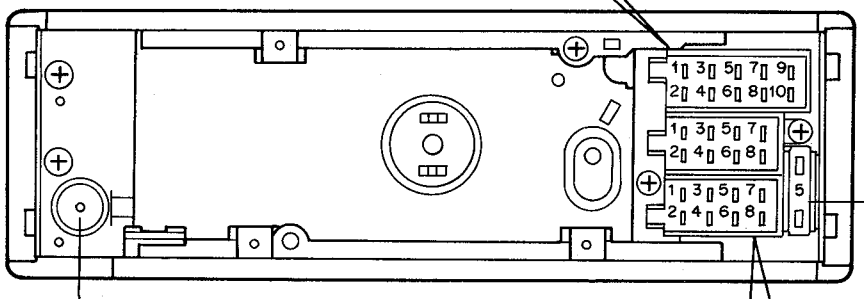


ELECTRICAL CONNECTIONS

NOTE: Power supply terminal of radio must be connected to a constant power supply of car to maintain the memory.

CN1 (10 Pin)
EXTERNAL CONTROL CONNECTOR
1~4. Not Use
5. Ground
6. Exterminal Mute
7. Right Front Pre Out
8. Right Rear Pre Out
9. Left Front Pre Out
10. Left Rear Pre Out

FUSE
Be sure to use a fuse of specified rating (5A: Order Part No. YEAF02002) when replacing a blown fuse. Fuses rated higher capacity, use of any substitute, or connection without a fuse may result in a fire hazard or damaged to the unit.



Antenna Receptacle

ANTENNA CONNECTION
Length of the cable from the antenna should be short as possible for best radio reception.

SPEAKER CONNECTION
Make sure all speakers are connected in the same polarity.

CN3 (8 Pin)
POWER CONNECTOR
1. GALA (+)
2. GALA (−)
3. Active Speaker Relay Control
4. Not Used
5. Motor Antenna Relay Control
6. Dimmer Control
7. Power Supply
8. Ground

OPERATION OF CONTROLS

MAIN CONTROLS & RADIO OPERATION

Preset Statrion Indicator
(1 - 4)
CD TRACK NO. Indictor
(01- 99)

DX Button (DX)
Normally, the DX Button is at "off" position (DX Indicator out).
During scan or seek tuning, if you feel there are few stations being received, press the DX Button and DX Indicator is shown on the display panel.

VF BUTTON (VF)
Push the VF button for "VF" traffic-information brordcast reception.

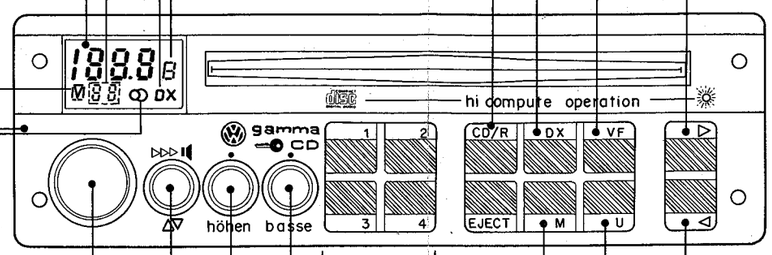
DX Indicator

Frequency Indicator

VF Ared Code Indicator (A-F)

Band Indicator
" L I " lights on at FM reception.
" M " lights on at AM reception.
" V " lights on at VF reception.

CD / RADIO SELECTOR SWITCH (CD / R)



Track No. and Preset No. Indicator

FM Stereo Indicator(∞)

Up/Down Tuning Button
Manual tuning can be performed using the Down Tuning Button (◁) and Up Tuning Button (▷). When you hold the button for more than haft a second, the tuning frequency will count up or down rapidly, The tuning will stop instantly as soon as you release the button.
NOTE : FM wave band switches in increments of 0.1 MHz up or down automatically; the AM wave band in increments of 9 k Hz.

>TUNE ▷ Push to count up.

TUNE< ◁ Push to count down.

ON/OFF Switch
On : Turn knob clockwise until a clock is heard.
Off : Turn knob counterclockwise until a click is heard.

Volume Control
Progressive rotation increases radio or tape player volume.

Balance Control (PULL)
Adjust sound balance of the left and right speakers for optimum stereo effect.

Seek Tuning Button (PUSH)
Each time the button is pressed, the seek tuning is automatically done and will stop on the next broadcasting station.
NOTE: The seek tuning will count up only.

Fader Control
Adjust sound balance of the front and rear speakers.

GALA Control (Pull)
Adjust sound volume of the speakers for speeder(car acceleration).

Band Selector (M/U)
FM : To select FM, press this button and the FM frequency will be displayed on the Frequency Indicator.
AM: To select AM, press this button and the AM frequency will be displayed on the Frequency Indicator.

U Push to select FM.

M Push to select AM.

Preset Station Selector Buttons
Each preset station selector button can select one (1) station on AM and one (1) station on FM.
Thus, the four (4) preset station selector buttons can be used to select a total of eight (8) stations (4 for AM and for FM).

To Preset Stations
1. Tune in to the desired stations either by seek or manual tuning. (Refer to "Up/Down Tuning Buttons" and "Seek Tuning Button")
2. Hold one of the Preset Station Selector Buttons in for several seconds. (While holding the preset station selector button, the radio cannot be heard. This will activate the memory circuit to preset the desired station.)
3. Release the Preset Station Selector Button after you hear the radio again. The station frequency being displayed will blink once to show that the memory has been set.

NOTE : The preset station is shown on the Preset Station Indicator (CH1-CH6). For example, the first button is indicated as "1", the second button as "2", and so on.)

Treble Tone Control (höhen)
Turning knob clockwise increases high tone and counterclockwise decreases high tone.

Bass Tone Control (bässe)
Turning knob clockwise increases low tone and counterclockwise decreases low tone.

CD OPERATION

Up/Down Track/FF/REW Button

These buttons have two functions, "Up/Down TRACK" and "FF/REW" . For Up/Down TRACK operation, press the button once, where as FF/REW will operate by pressing the button continuously.

Up/Down TRACK :

- Pressing the ▷ button once will play the beginning of the next music.
- Pressing the ◁ button once will replay the beginning of the music just listened to.

FF/REW : Press the button continuously to fast forward or rewind the disc.

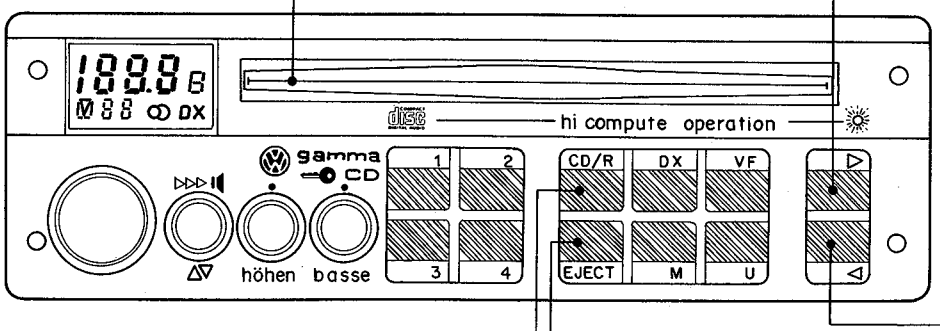
- The ▷ button for fast forward, and the ◁ button for rewind.

Disc Slot

- Insert disc with label side facing up. Push inward until the mechanism captures the disc. Playback starts automatically from track "1" when the disc is inserted. The track number "1" and the time counter are shown on the LCD display.

NOTE :

- If disc is inserted with label side facing down, the disc will be automatically ejected.
- If two discs are inserted simultaneously it will cause some damage to the disc itself.



CD / RADIO SELECTOR BUTTON (CD/ R)

When the tuner button is switched on during disc playing, the radio program can be heard and the station frequency being played is shown on the LCD display. The disc-play will stop at that position (pause mode) and when the tuner button is switched off, the disc-play will resume.

NOTE: The disc should always be ejected from the disc slot when not in use.

Eject Button (EJECT)

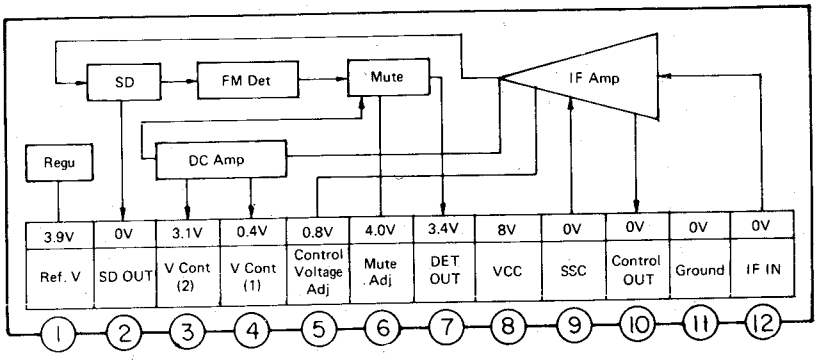
Press this button to eject the disc. The disc will pop out for removal. The radio frequency will appear on the LCD display.

NOTES:

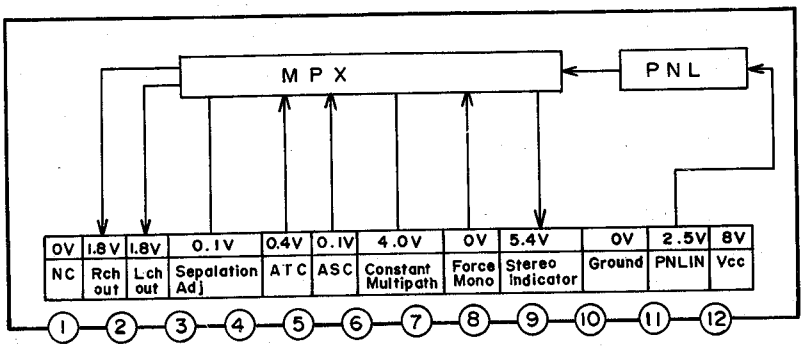
- If power is switched off before the eject button is pressed, the disc will not pop out. Switch on the power again and press the eject button to eject the disc.
- The disc should always be removed from the disc slot when not in use. Store the disc in it original case.

PACKAGE BLOCK DIAGRAM

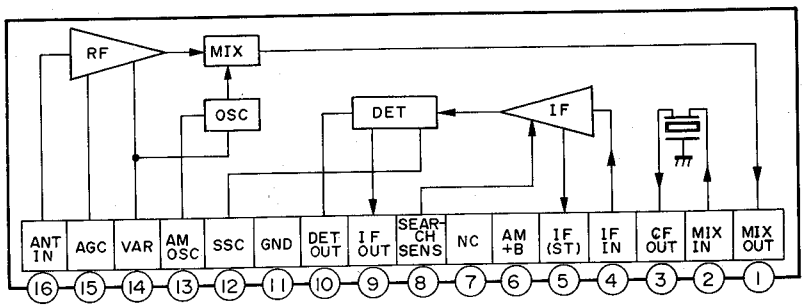
- YEP0PTP136B0 (P136)


SD
FM Det
Mute
IF Amp
Regu
DC Amp
3.9V | 0V | 3.1V | 0.4V | 0.8V | 4.0V | 3.4V | 8V | 0V | 0V | 0V | 0V
Ref. V | SD OUT | V Cont (2) | V Cont (1) | Control Voltage Adj | Mute Adj | DET OUT | VCC | SSC | Control OUT | Ground | IF IN
1 2 3 4 5 6 7 8 9 10 11 12

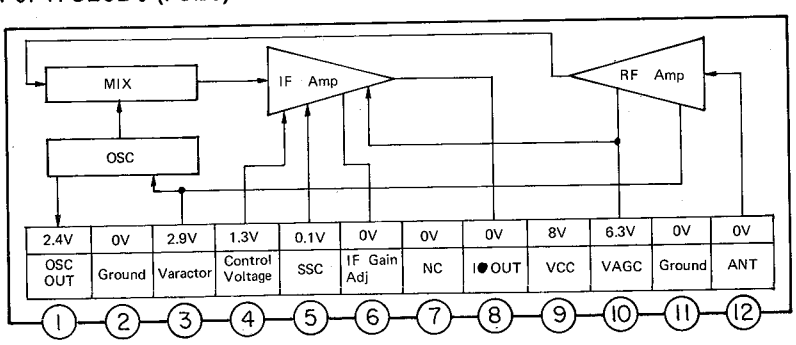
- YEP0PTP149D0 (P149)


MPX
PNL
0V | 1.8V | 1.8V | 0.1V | 0.4V | 0.1V | 4.0V | 0V | 5.4V | 0V | 2.5V | 8V
NC | Rch out | Lch out | Sepalation Adj | ATC | ASC | Constant Multipath | Force Mono | Stereo Indicator | Ground | PNLIN | Vcc
1 2 3 4 5 6 7 8 9 10 11 12

- YEP0PTP519D0 (P519)

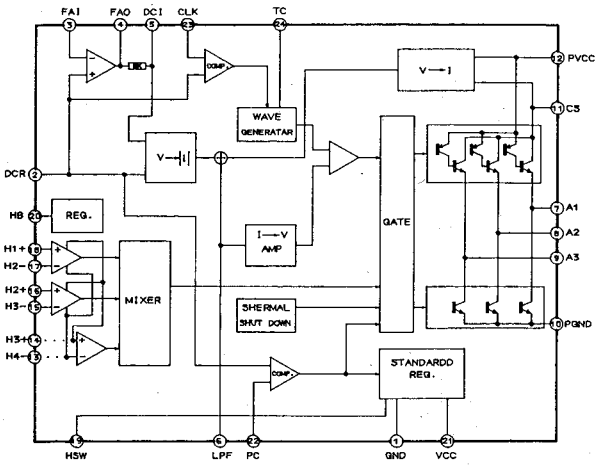

RF
MIX
OSC
DET
IF
ANT IN | AGC | VAR | AM OSC | SSC | GND | DET OUT | IF OUT | SEARCH SENS | NC | AM +B | IF (ST) | IF IN | CF OUT | MIX IN | MIX OUT
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- YEP0PTP526D0 (P526)

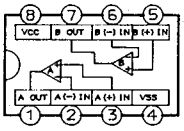

MIX
IF Amp
RF Amp
OSC
2.4V | 0V | 2.9V | 1.3V | 0.1V | 0V | 0V | 0V | 8V | 6.3V | 0V | 0V
OSC OUT | Ground | Varactor | Control Voltage | SSC | IF Gain Adj | NC | IOUT | VCC | VAGC | Ground | ANT
1 2 3 4 5 6 7 8 9 10 11 12

IC BLOCK DIAGRAM

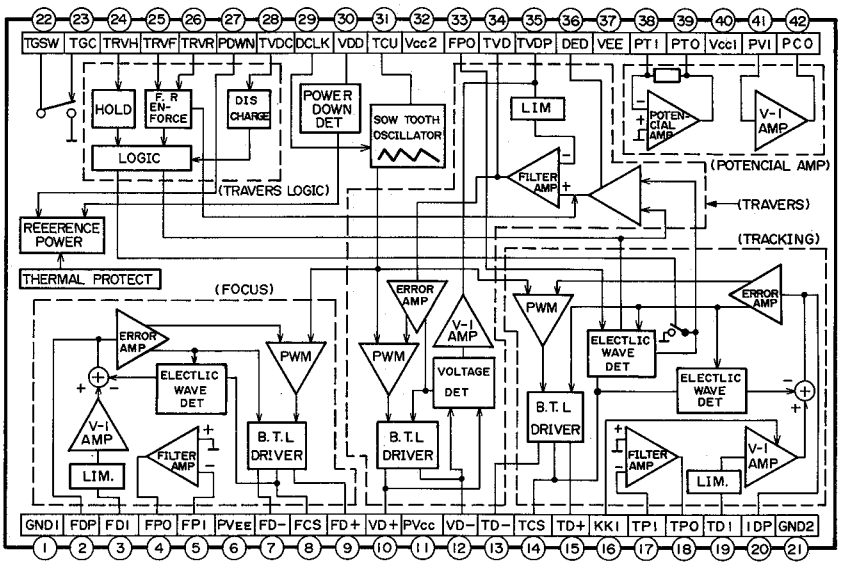
- AN8290S (IC101)



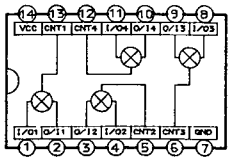
- AN6552S (IC104)



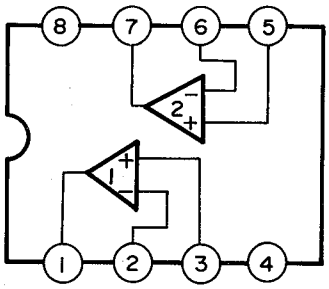
- AN8270S (IC102)



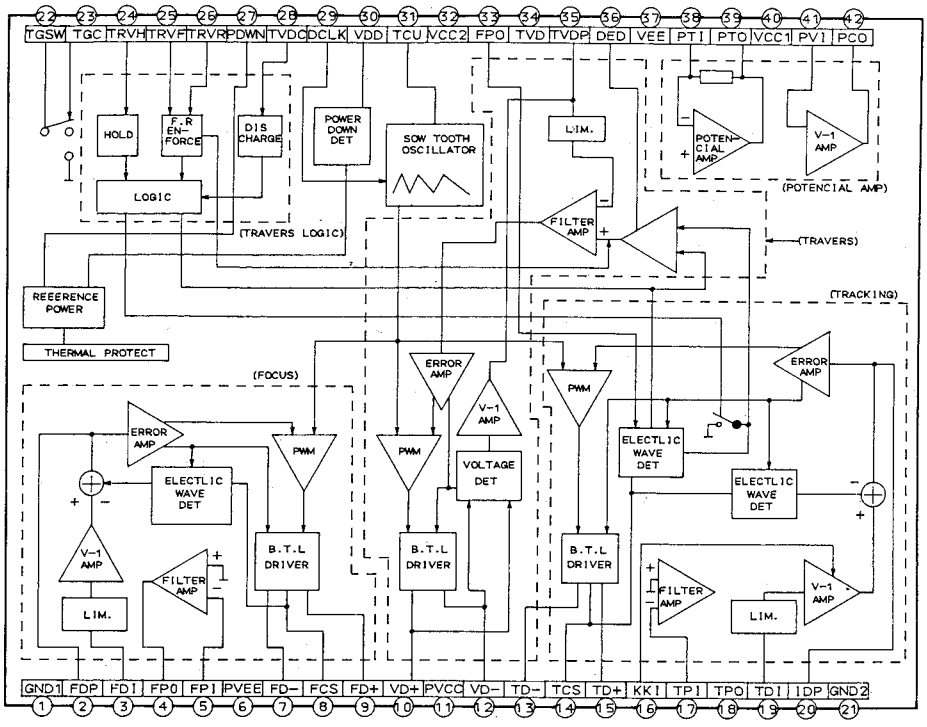
- MN4066BS (IC105,222)



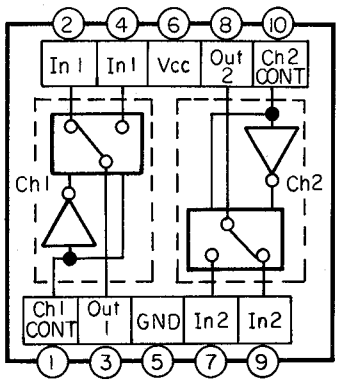
- YEAMM5218P (IC210, 211, 212, 521, 572)



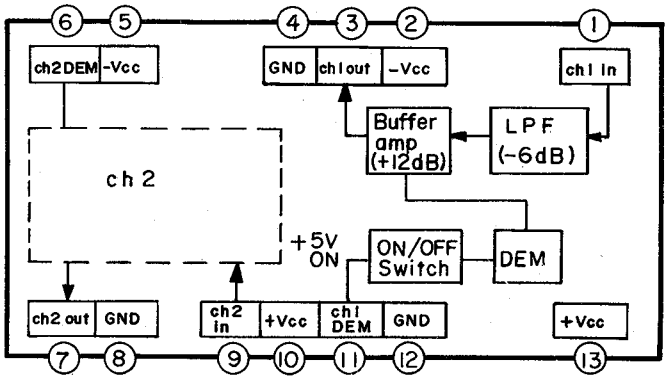
- AN8375S(IC103)



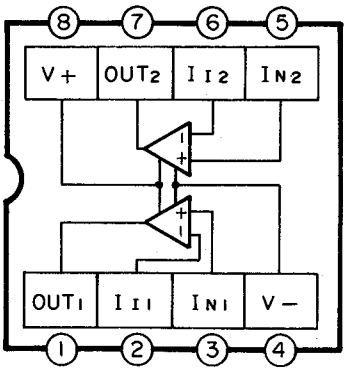
- YEAMTK15021 (IC210)



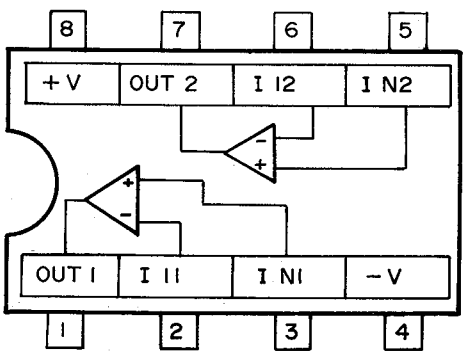
- YEMHLAL273 (IC214)



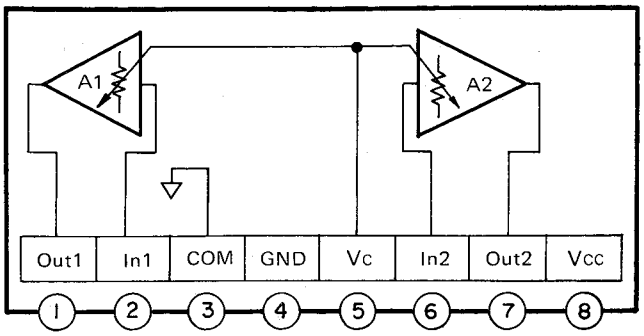
- YEAMPC358G (IC213)



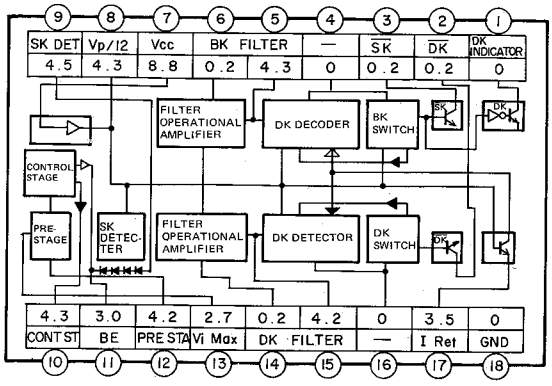
- YEAMPC4570 (IC215)



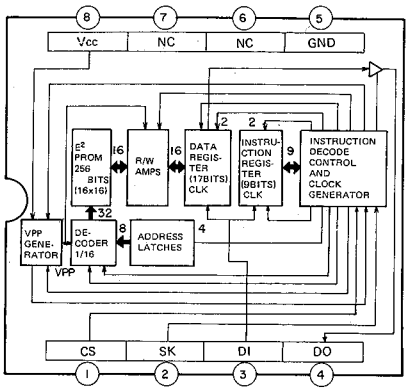
- YEAMM5222FP (IC223)



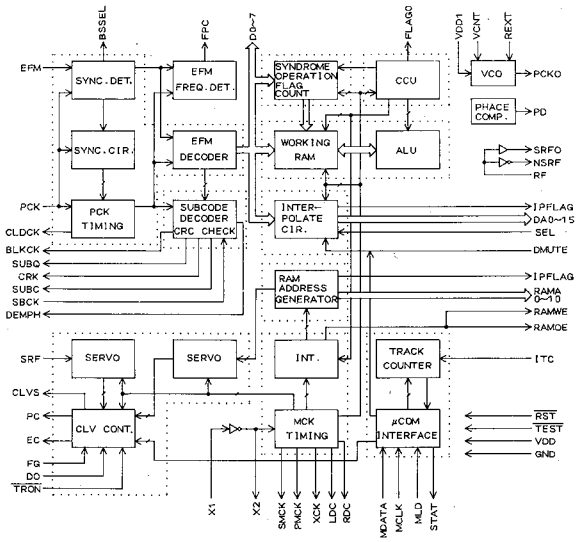
- YEAMTDA1579 (IC571)



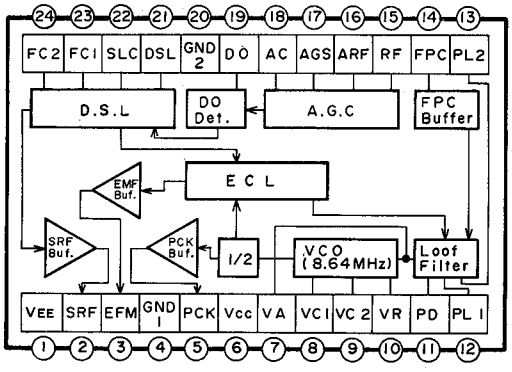
- YEAMNMC9306E (IC602)



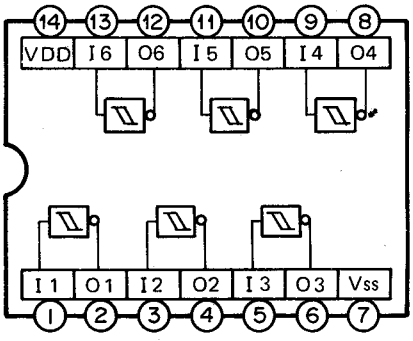
- MN6617C (IC702)



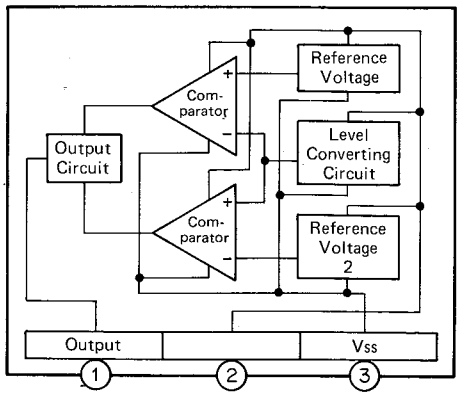
- AN8371S (IC704)



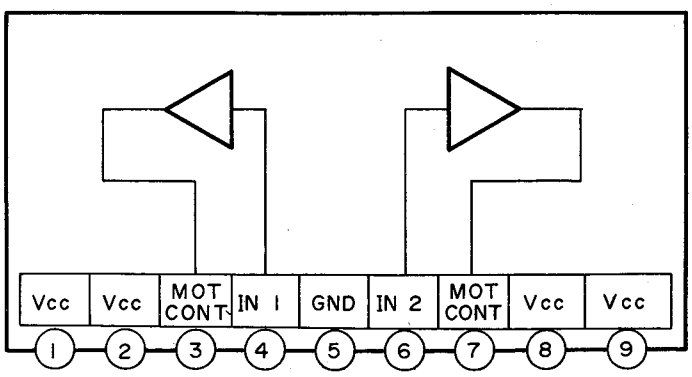
- MN4584BS (IC705, 706, 710)



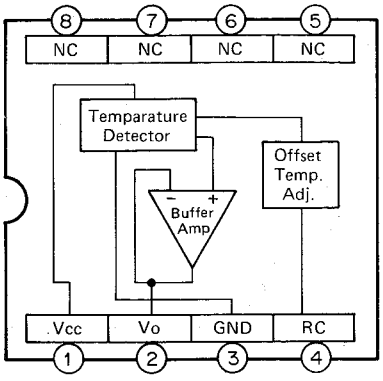
- MN1280Q (IC707, 708)



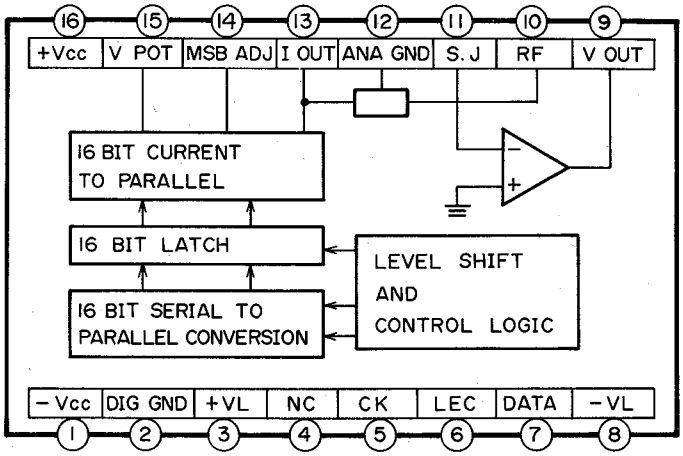
- YEAMM54544L (IC711)



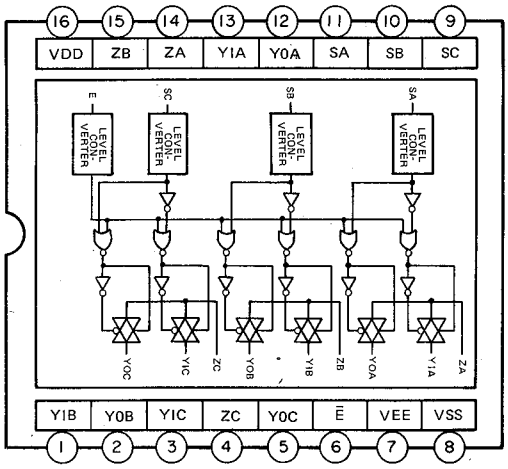
- AN7601S (IC712)



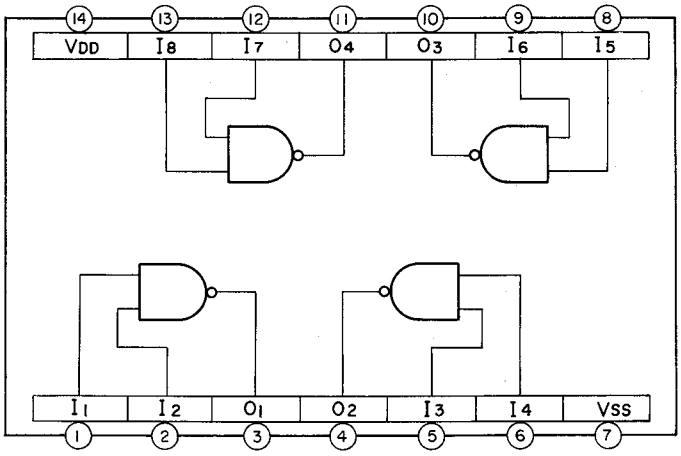
- YEAMPCM56P (IC752)


16 15 14 13 12 11 10 9
+Vcc V POT MSB ADJ I OUT ANA GND S.J RF V OUT
16 BIT CURRENT TO PARALLEL
16 BIT LATCH
16 BIT SERIAL TO PARALLEL CONVERSION
LEVEL SHIFT AND CONTROL LOGIC
-Vcc DIG GND +VL NC CK LEC DATA -VL
1 2 3 4 5 6 7 8

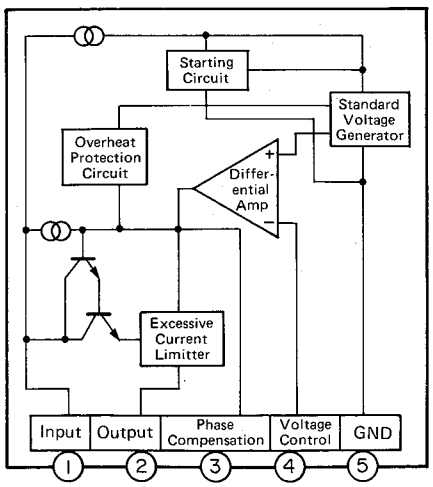
- MN4053BS (IC751)


16 15 14 13 12 11 10 9
VDD ZB ZA YIA Y0A SA SB SC
LEVEL CONVERTER
Y0C YIC ZC Y0B YIB ZB Y0A Y1A ZA
YIB Y0B YIC ZC Y0C Ē VEE VSS
1 2 3 4 5 6 7 8

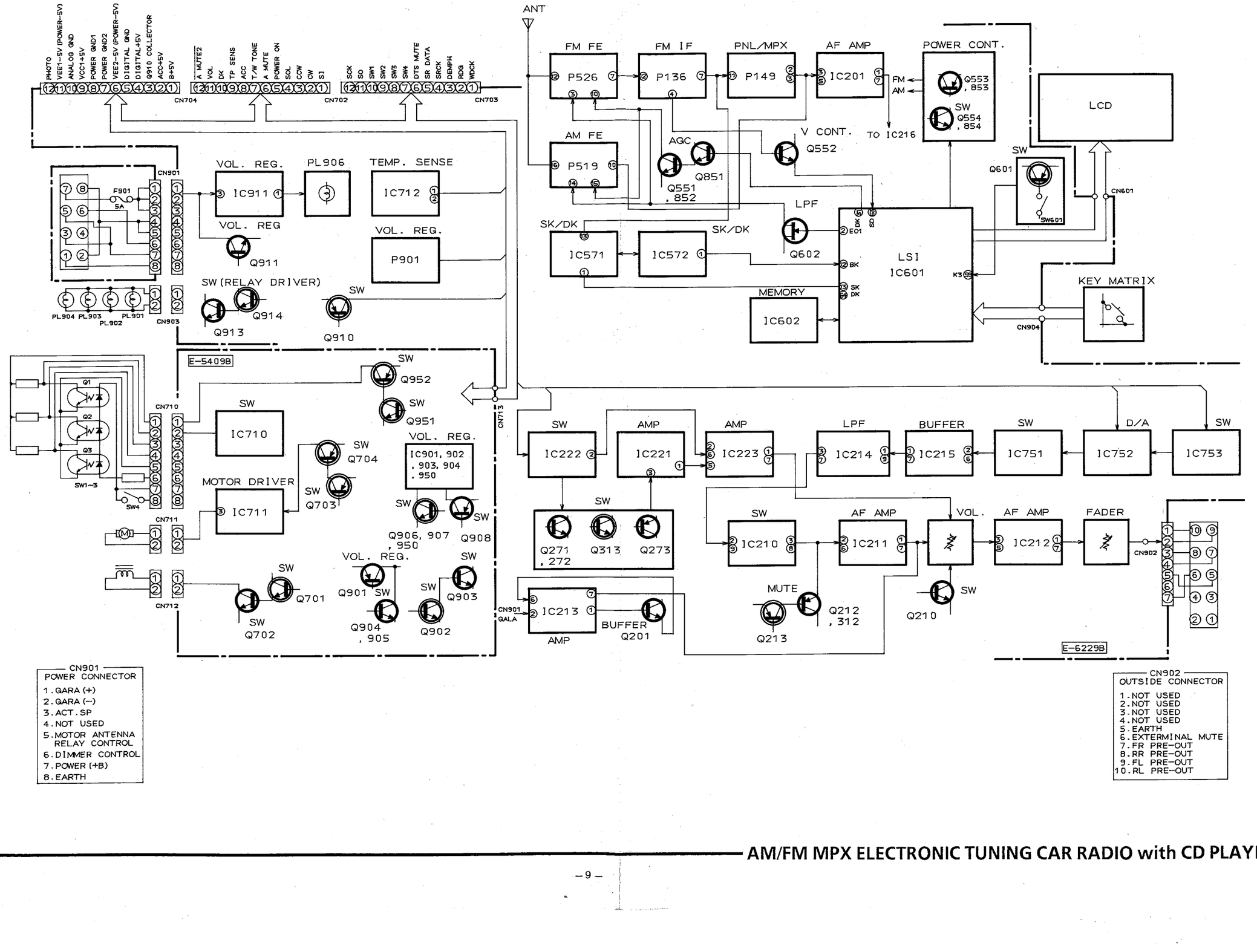
- MN4011BS (IC753)



- YEAMM5231 (IC902, 904)



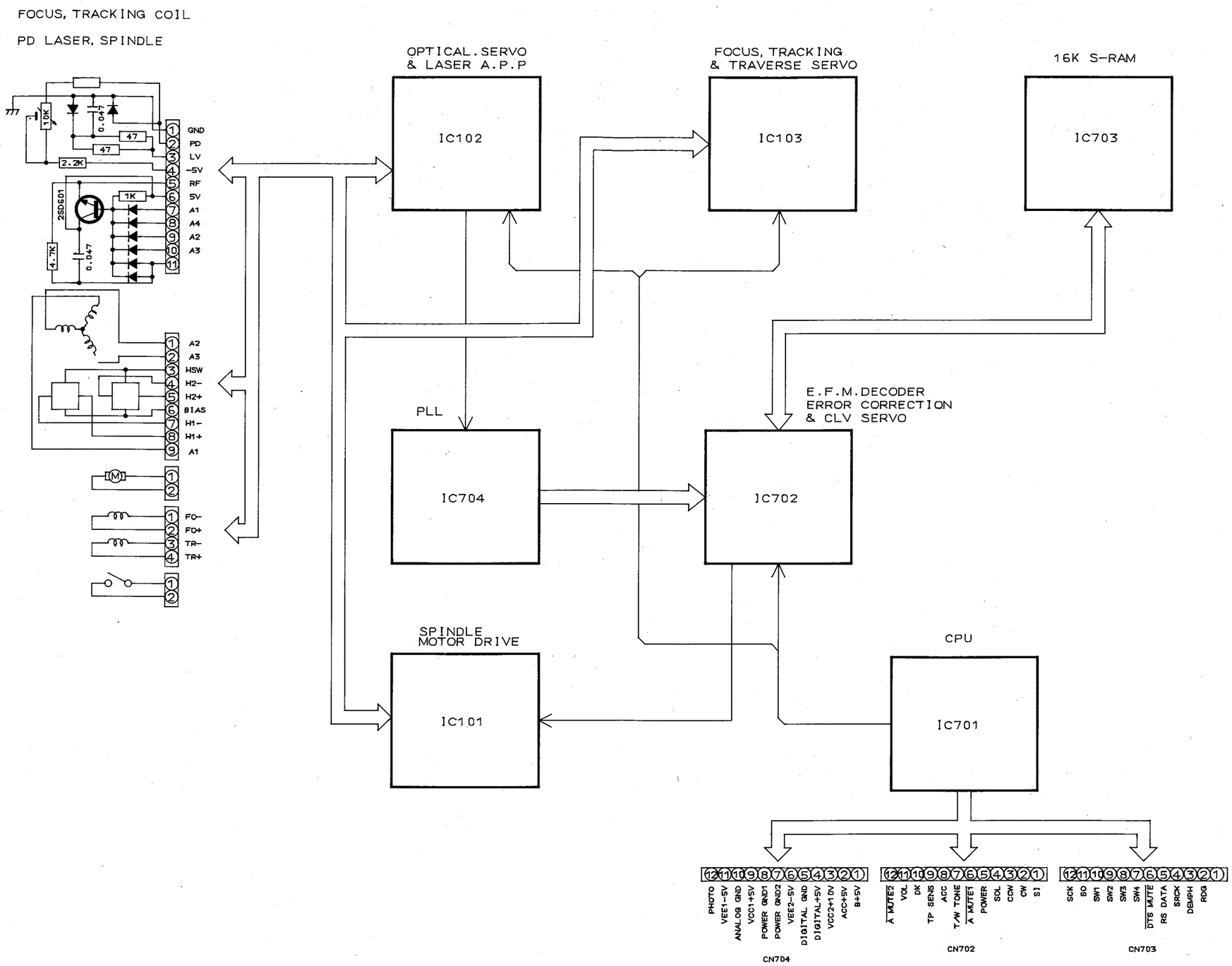
BLOCK DIAGRAM (RADIO BLOCK) MODEL CQ-DV182A



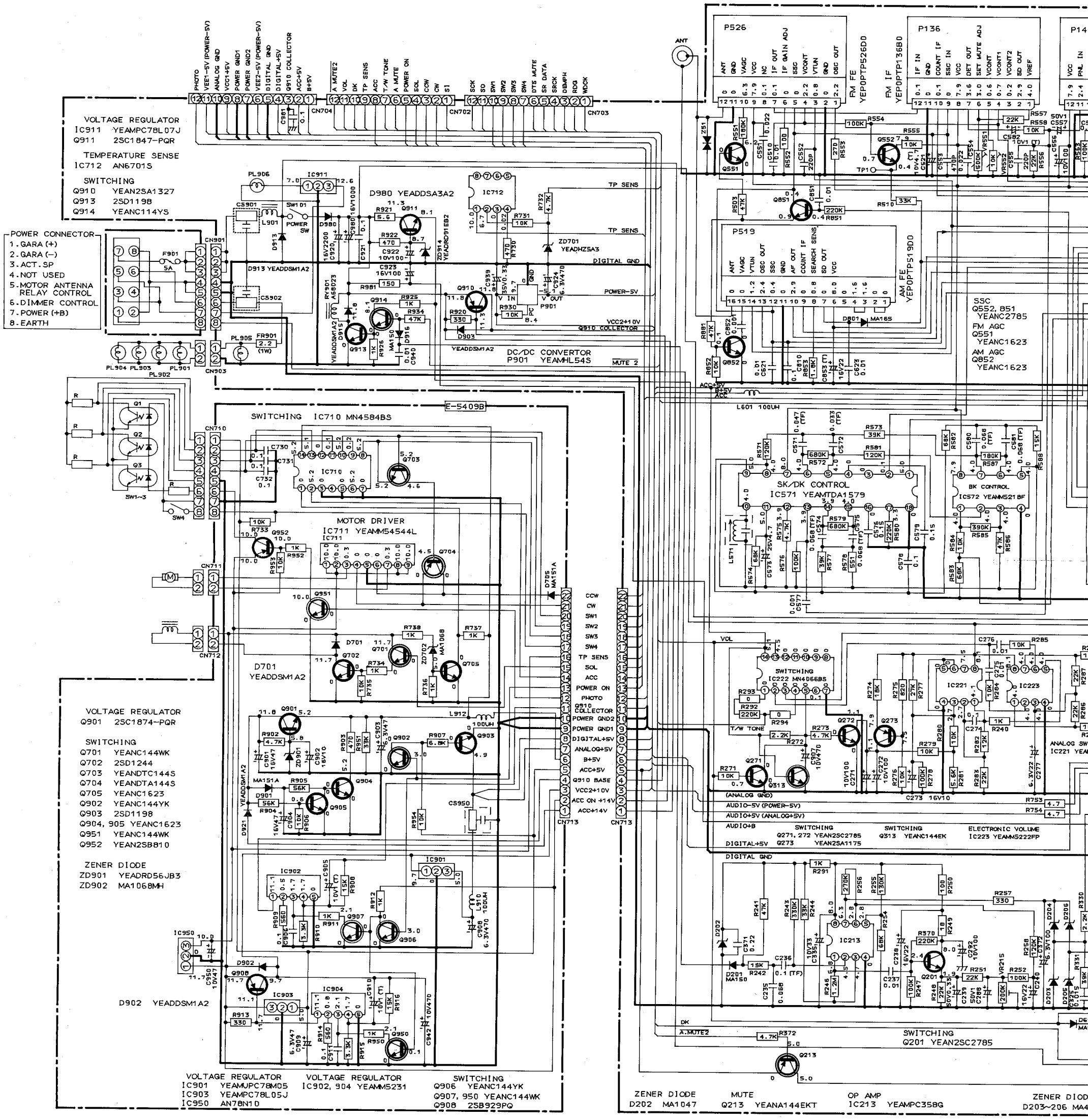
CN901
POWER CONNECTOR
1. GARA (+)
2. GARA (−)
3. ACT. SP
4. NOT USED
5. MOTOR ANTENNA RELAY CONTROL
6. DIMMER CONTROL
7. POWER (+B)
8. EARTH

CN902
OUTSIDE CONNECTOR
1. NOT USED
2. NOT USED
3. NOT USED
4. NOT USED
5. EARTH
6. EXTERMINAL MUTE
7. FR PRE-OUT
8. RR PRE-OUT
9. FL PRE-OUT
10. RL PRE-OUT

BLOCK DIAGRAM (SERVO BLOCK) MODEL CQ-DV182A



SCHEMATIC DIAGRAM (RADIO BLOCK) MODEL CQ-DV182A



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E-6229B

OP AMP
IC201 YEAMM5218F

P149

PNL/MPX
YEP0PTP149D0

POWER CONTROL
Q553, 853 YEANA812

SWITCHING
Q554, 854 YEANC1623

SSC
Q552, 851
YEANC2785

FM AGC
Q551
YEANC1623

AM AGC
Q852
YEANC1623

LSI
IC601 YEAM1719G558

MEMORY
IC602
YEAMNMC9306E

BK CONTROL
IC572 YEAMM5218F

ANALOG SWITCH
IC221 YEAMM5218F

ELECTRONIC VOLUME
IC223 YEAMM5222FP

L.P.F IC214 YEAMHLAL273

IC751 MN4053BS

IC752 YEAMPCM56P

IC753 MN4011BS

LOW PASS FILTER
Q602 YEAN2SK336

AUDIO SIGNAL SELECTOR
IC751 MN40538S

D/A CONVERTOR
IC752 YEAMPCM56P

NAND
IC753 MN4011BS

OUTSIDE CONNECTOR
1. NOT USED
2. NOT USED
3. NOT USED
4. NOT USED
5. EARTH
6. EXTERMINAL MUTE
7. FR PRE-OUT
8. RR PRE-OUT
9. FL PRE-OUT
10. RL PRE-OUT

VR211, 311 TREBLE CONTROL
VR210, 310 BASS CONTROL

VR213, 313
BALANCE CONTROL

VR212, 312
VOLUME CONTROL

VR214, 314
FADER CONTROL

ZENER DIODE
D203~206 MA4027

ANALOG SWITCH
IC210 YEAMTK15021

MUTE
Q212, 312 YEAN2SC3068

SWITCHING
Q210 YEAN2SC3068
Q211 YEANC144EKT

OP AMP
IC211 YEAMM5218F
IC212 YEAMM5218FT1

AM/FM MPX ELECTRONIC TUNING CAR RADIO with CD PLAYER

P526			
1	2.2V	7	0.1V
2	0V	8	0.1V
3	0.8V	9	7.9V
4	2.2V	10	6.3V
5	0V	11	0V
6	0V	12	0V

P519			
1	0V	9	0V
2	0V	10	2.0V
3	1.6V	11	0V
4	1.6V	12	0.4V
5	0V	13	2.4V
6	8.0V	14	1.2V
7	0V	15	0V
8	0.8V	16	0V

P149			
1	1.8V	7	1.4V
2	2.7V	8	0V
3	2.7V	9	5.0V
4	0.1V	10	0V
5	0.2V	11	2.4V
6	1.9V	12	7.9V

P136			
1	4.0V	7	3.6V
2	2.9V	8	7.9V
3	0.2V	9	0V
4	0.7V	10	0V
5	0.6V	11	0V
6	3.0V	12	0.1V

Q911	
B	8.7V
C	11.3V
E	8.1V

Q272	
B	0V
C	1.1V
E	0V

Q910	
B	11.3V
C	11.8V
E	11.8V

Q273	
B	7.5V
C	1.1V
E	7.4V

Q552	
B	0.7V
C	7.9V
E	0.4V

Q851	
B	0.4V
C	0.4V
E	0.4V

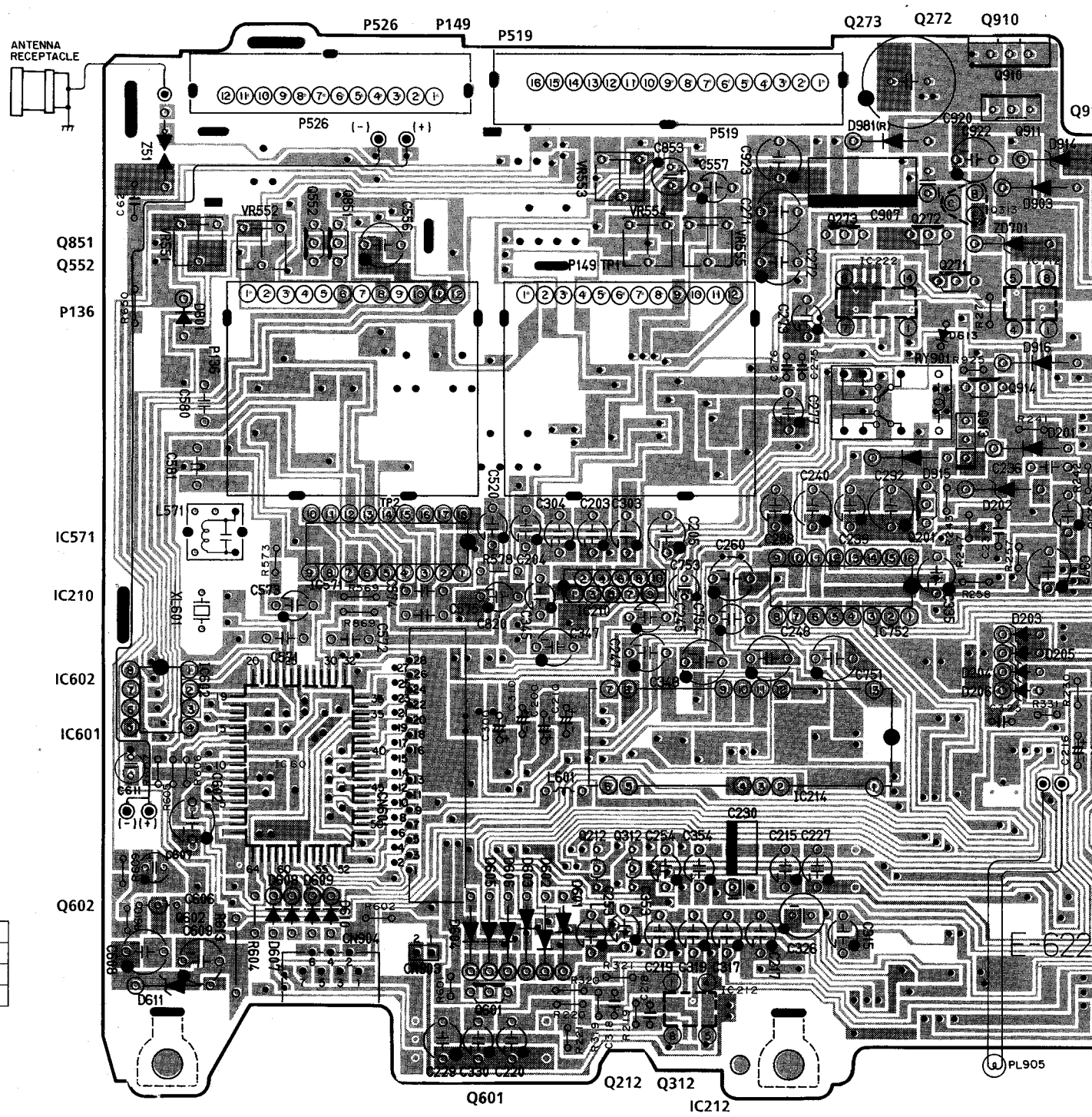
IC210			
1	3.9V	6	8.1V
2	4.0V	7	4.0V
3	4.0V	8	4.0V
4	4.0V	9	4.0V
5	0V	10	3.9V

IC571			
1	5.0V	10	4.0V
2	0.1V	11	5.0V
3	0V	12	3.9V
4	0V	13	3.9V
5	4.0V	14	3.9V
6	4.0V	15	4.0V
7	8.0V	16	0V
8	4.0V	17	3.3V
9	5.0V	18	0V

IC602	
1	0V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0V
8	4.9V

Q602	
G	0.8V
S	1.8V
D	0V

IC212			
1	5.1V	5	5.1V
2	5.1V	6	5.1V
3	5.1V	7	5.1V
4	0V	8	10.2V



Q601	
B	5.0V
C	0V
E	2.7V

Q212	
B	0V
C	0V
E	0V

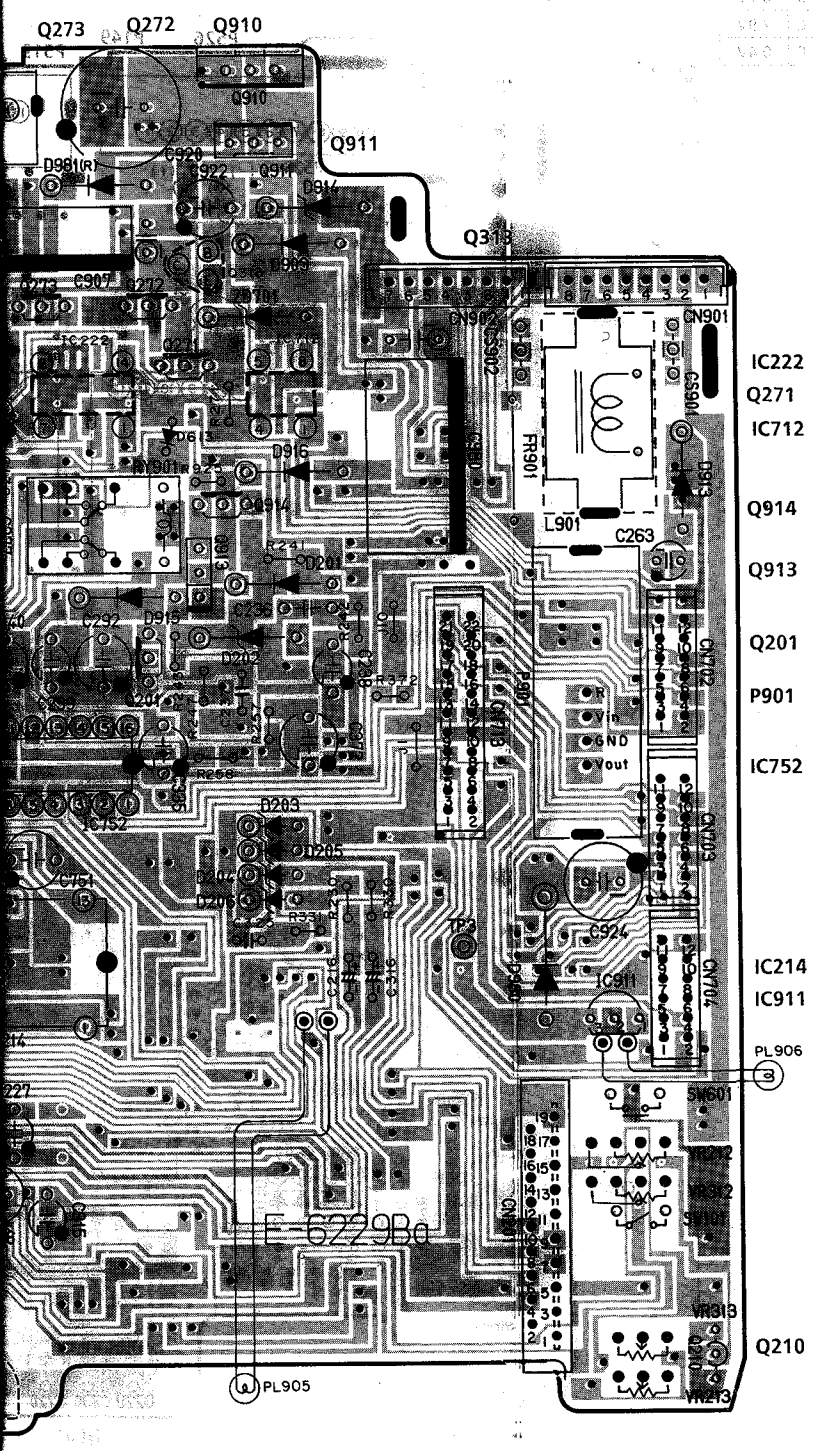
Q312	
B	0V
C	0V
E	0V

Q911	
B	8.7V
C	11.3V
E	8.1V

Q272	
B	.0V
C	1.1V
E	0V

Q910	
B	11.3V
C	11.8V
E	11.8V

Q273	
B	7.5V
C	1.1V
E	7.4V



IC222			
1	0V	8	0V
2	0V	9	0V
3	0V	10	0V
4	0V	11	0V
5	0V	12	0V
6	0.1V	13	4.5V
7	0V	14	5.1V

Q271	
B	0.7V
C	0V
E	0V

IC712			
1	10.0V	5	—
2	0.7V	6	—
3	0V	7	—
4	0.02V	8	—

Q914	
B	0V
C	8.1V
E	0V

Q201	
B	2.4V
C	8.0V
E	1.9V

Q913	
B	0V
C	11.8V
E	0V

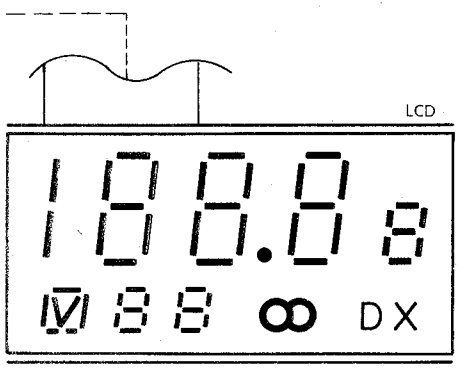
IC911	
1	7.0V
2	0V
3	12.6V

P901	
Vout	5.1V
PC	8.4V
Vin	9.7V
GND	0V

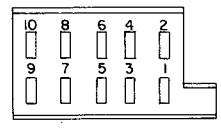
IC752			
1	4.9V	9	0V
2	0V	10	0V
3	4.9V	11	0V
4	0V	12	0V
5	1.2V	13	0V
6	2.4V	14	2.3V
7	2.4V	15	2.7V
8	4.9V	16	4.8V

IC214			
1	0V	8	0V
2	4.9V	9	0V
3	0.1V	10	4.8V
4	0V	11	0V
5	4.9V	12	0V
6	0V	13	4.8V
7	0.1V		

WIRING DIAGRAM (RADIO BLOCK) MODEL CQ-DV182A



OUTSIDE CONNECTOR



1. Not Used
2. Not Used
3. Not Used
4. Not Used
5. Earth
6. External Mute
7. Front Right Pre-Out (For Active Speaker
8. Rear Right Pre-Out (For Active Speaker)
9. Front Left Pre-Out (For Active Speaker)
10. Rear Left Pre-Out (For Active Speaker)

IC201			
1	4.4V	5	4.4V
2	4.4V	6	4.4V
3	4.4V	7	4.4V
4	0V	8	8.1V

IC223			
1	4.0V	5	4.0V
2	4.0V	6	4.0V
3	4.0V	7	4.0V
4	0V	8	8.1V

IC221			
1	4.1V	5	0V
2	2.7V	6	0V
3	2.7V	7	7.5V
4	0V	8	8.1V

IC572			
1	4.0V	7	4.0V
2	4.0V	8	4.0V
3	4.0V	9	4.0V
4	0V	10	7.9V

Q551	
B	0V
C	6.2V
E	0V

Q553	
B	7.2V
C	7.9V
E	8.0V

Q853	
B	7.3V
C	7.4V
E	8.1V

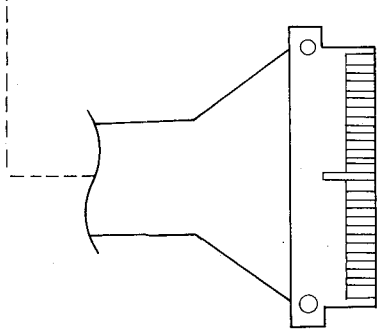
Q852	
B	0.1V
C	0V
E	0V

Q554	
B	0.1V
C	0.1V
E	0V

Q854	
B	0.7V
C	0.1V
E	0V

Q852 IC201 IC223 IC221

Q551
Q553
Q853
IC572
Q554
Q854



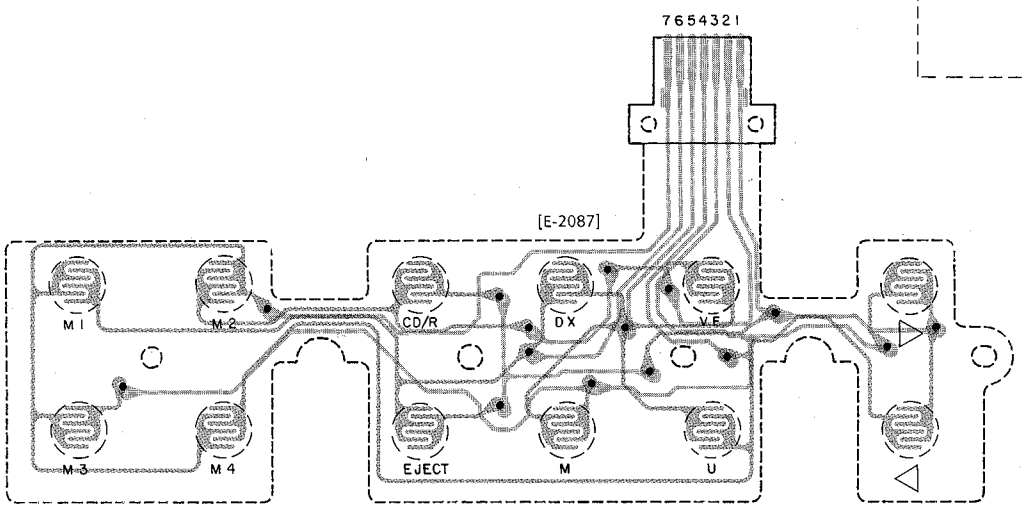
IC215			
1	0V	5	0V
2	0V	6	0V
3	0V	7	0V
4	4.9V	8	4.8V

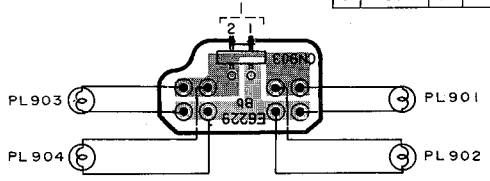
IC753 IC211

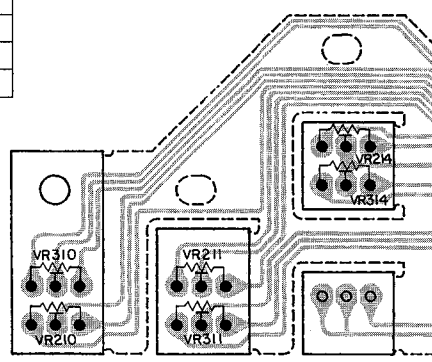
Q213 IC215 IC751

Q213	
B	5.0V
C	5.0V
E	0V

IC753			
1	4.9V	8	2.4V
2	4.9V	9	2.4V
3	0V	10	2.4V
4	3.7V	11	2.4V
5	3.6V	12	2.4V
6	2.4V	13	2.4V
7	0V	14	4.9V







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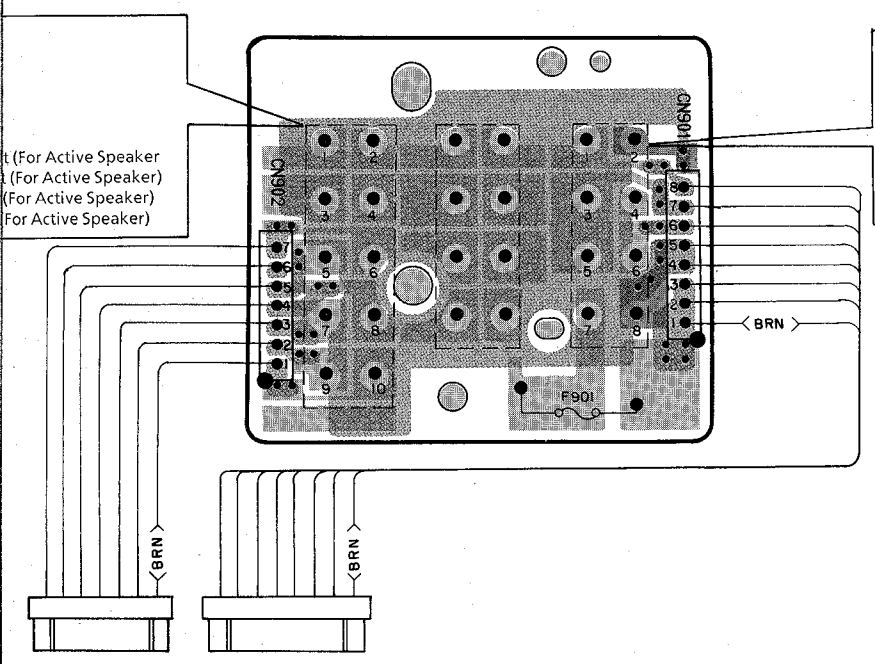
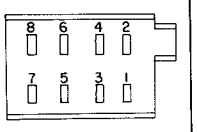


POWER CONNECTOR

1. GARA (+)
2. GARA (–)
3. Active Speaker Relay Control Connection
4. Not Used
5. Motor Antenna Relay Control Connection
6. Dimmer Control Connection
7. Power Connection
8. Earth Connection



Q906	
B	3.0V
C	0V
E	0V

Q907	
B	0V
C	2.1V
E	0V

Q950	
B	0.1V
C	2.1V
E	0V

Q952	
B	10.0V
C	10.0V
E	10.0V

Q903	
B	0V
C	4.9V
E	0V

Q211	
B	4.5V
C	0V
E	0V

Q704	
B	4.5V
C	0V
E	0V

Q905	
B	0.6V
C	0V
E	0V

Q702	
B	0V
C	11.7V
E	0V

Q705	
B	5.0V
C	0V
E	0V

Q703	
B	5.2V
C	4.6V
E	5.2V

IC710			
1	0V	8	5.2V
2	5.2V	9	0V
3	0V	10	5.2V
4	5.2V	11	0.1V
5	0V	12	0V
6	5.2V	13	5.1V
7	0V	14	5.2V

IC904	
1	11.1V
2	0.8V
3	2.1V
4	1.7V
5	0V

IC901	
1	9.7V
2	0V
3	5.0V

IC903	
1	5.0V
2	0V
3	11.7V

Q908	
B	11.1V
C	9.7V
E	11.7V

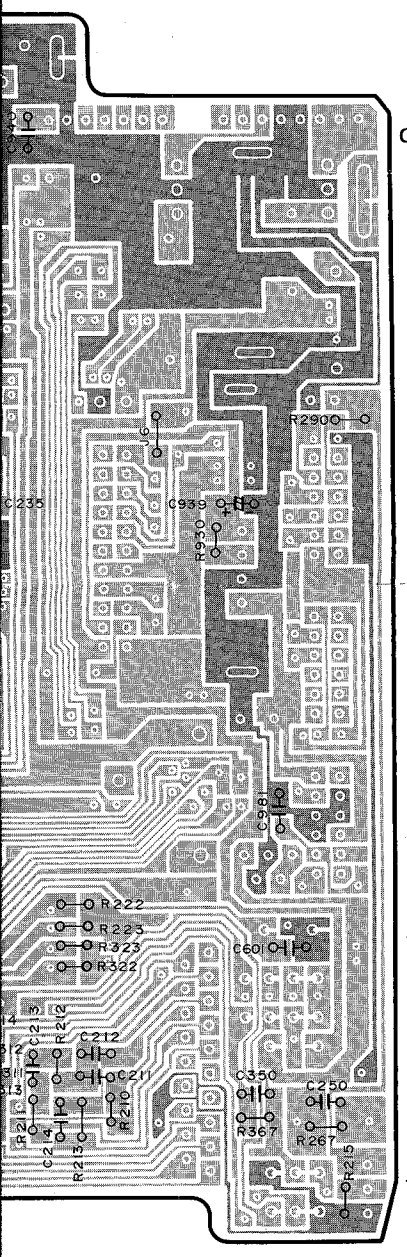
Q901	
B	5.4V
C	11.8V
E	5.2V

IC902	
1	11.1V
2	0.5V
3	1.7V
4	1.7V
5	0V

Q902	
B	3.0V
C	0V
E	0V

Q701	
B	0V
C	11.7V
E	0V

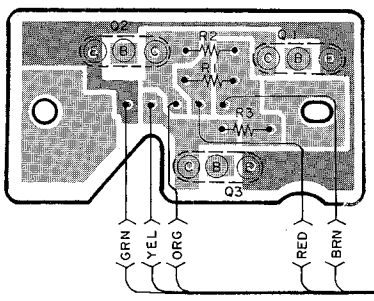
Q904	
B	0V
C	5.2V
E	0V

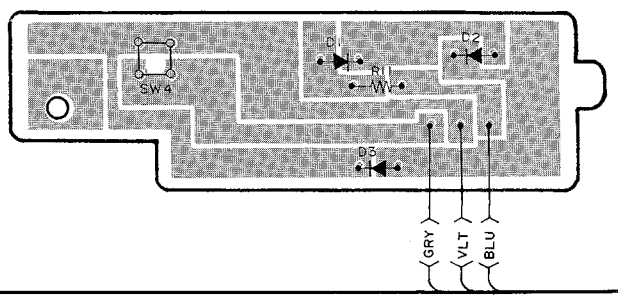


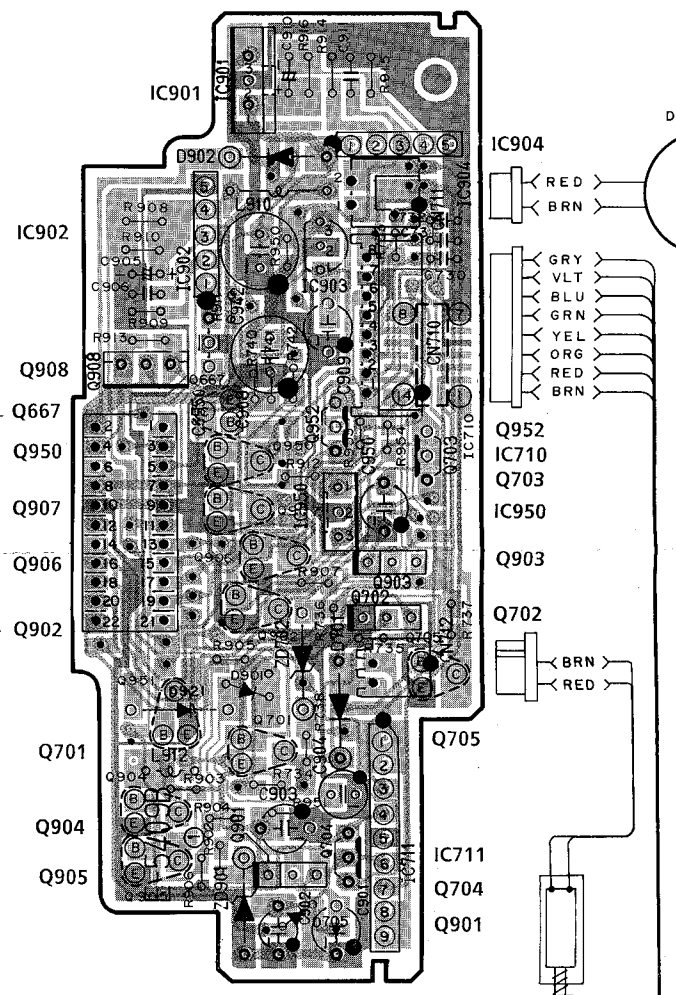
IC213			
1	6.8V	5	2.8V
2	4.5V	6	2.8V
3	4.7V	7	6.3V
4	0V	8	88.0V

IC211			
1	4.7VV	5	0V
2	4.7V	6	4.7V
3	0V	7	4.7V
4	0V	8	8.7V

IC751			
1	0V	9	3.6V
2	0V	10	0V
3	0V	11	3.6V
4	0V	12	0V
5	0V	13	0V
6	0V	14	0V
7	4.9V	15	0V
8	0V	16	4.8V



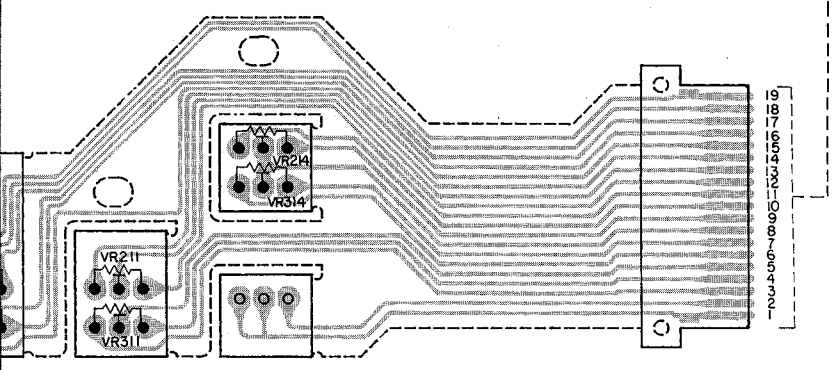




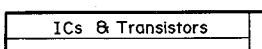
IC950	
1	11.7V
2	0V
3	10.0V

Q705	
B	5.0V
C	0V
E	0V

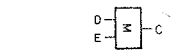
IC711	
1	10.0V
2	10.0V
3	0.3V
4	0V
5	0V
6	0V
7	0.3V
8	10.0V
9	10.0V

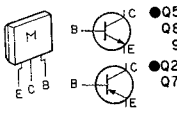


ICs & Transistors



●Q705, 904, 905
Q701, 902, 906, 907, 950, 951
Q201, 271, 272, 552, 553, 851, 853

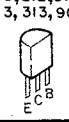




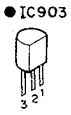
●Q551, 554, 852
Q854, 914, 201
952

●Q273, 601, 908
Q703, 704

●Q210, 212, 312, 211
Q213, 313, 903, 911, 901



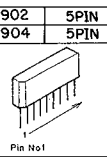
●IC903

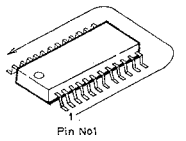


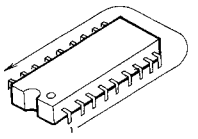
IC201	8PIN
IC211	8PIN
IC212	8PIN
IC213	8PIN
IC215	8PIN
IC221	8PIN
IC222	14PIN
IC223	8PIN
IC572	16PIN
IC710	14PIN
IC712	8PIN
IC751	16PIN
IC753	14PIN

IC571	18PIN
IC602	8PIN
IC752	16PIN

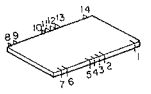
IC902	5PIN
IC904	5PIN



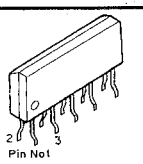




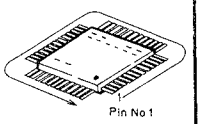
IC214	14PIN



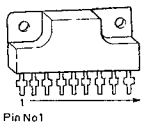
IC210	10PIN



IC601	64PIN



IC711	9PIN

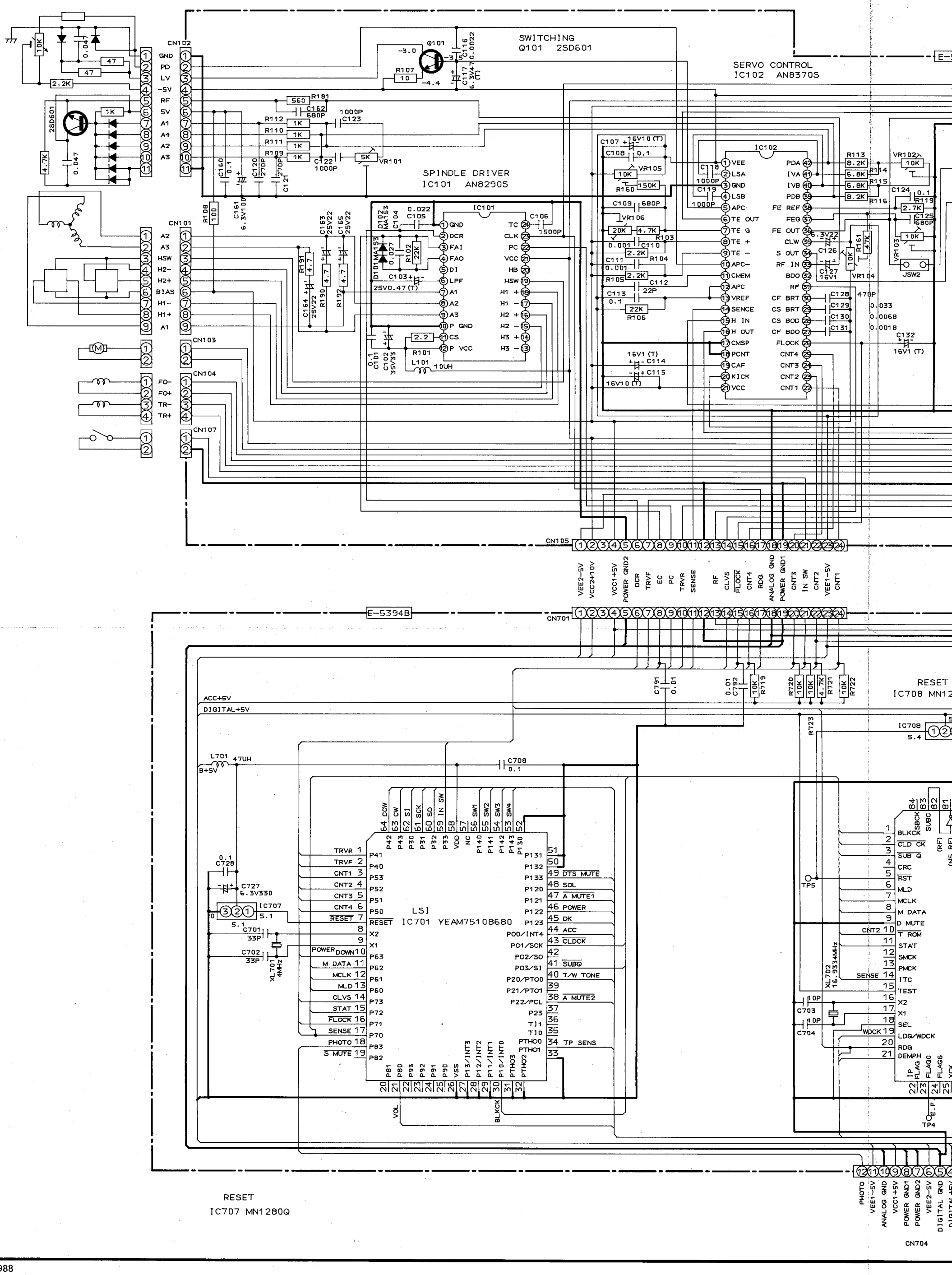


●IC901

●Q910

●Q913, 702

SCHEMATIC DIAGRAM (SERVO BLOCK) MODEL CQ-DV182A



Nov., 1988

E-5395

PWM DRIVER
IC103 AN8375S

OP AMP
IC104 AN6552S

SWITCHING
IC105 MN4066BS
Q102 YEANA124EK

D107, 108 MA151

D103, 104 MA153

RESET
IC708 MN1280Q

LSI CD SIGNAL PROCESSING
IC702 MN6617C

16K S-RAM
IC703 YEAM3517ML15

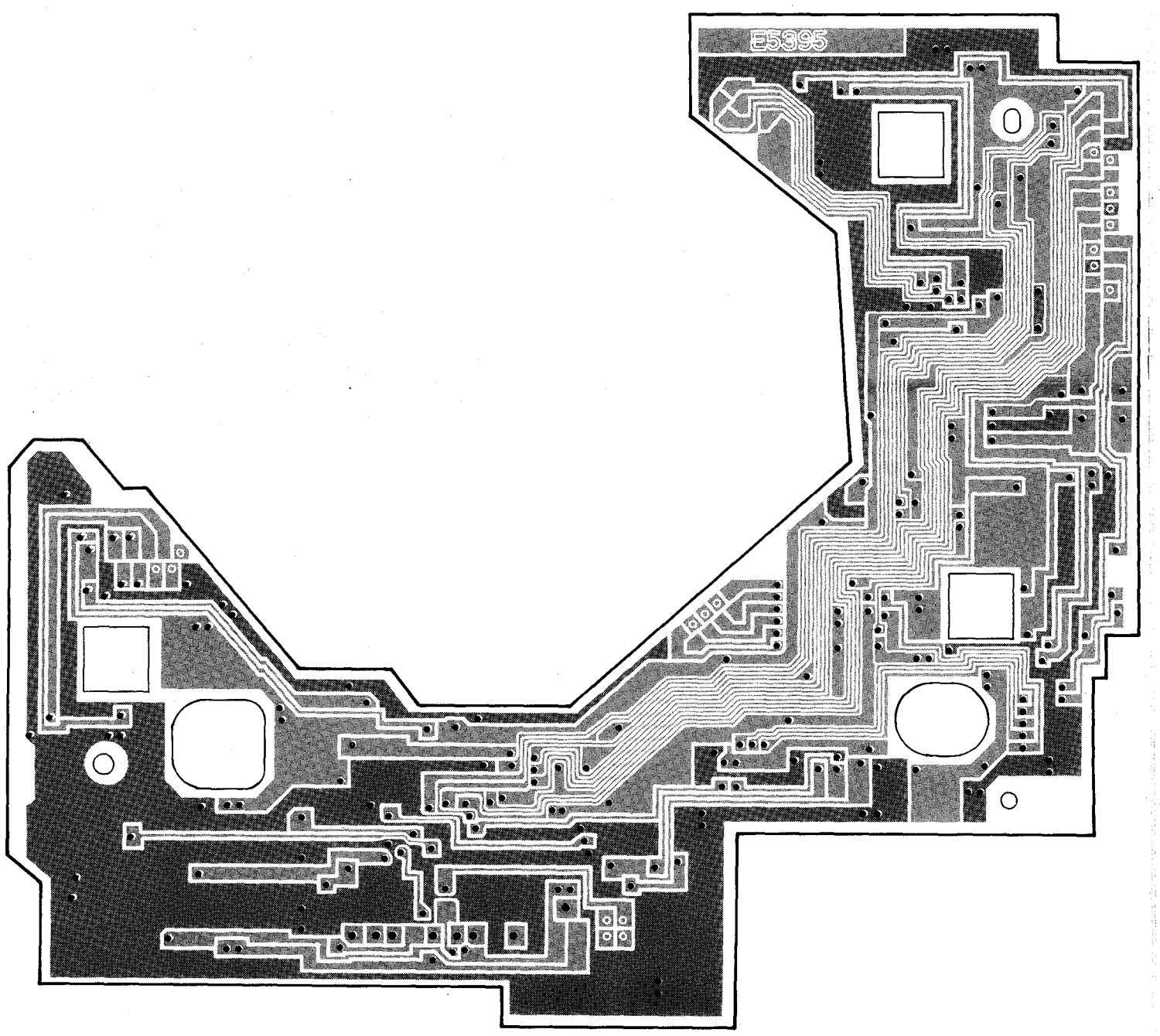
PLL
IC704 AN8371S

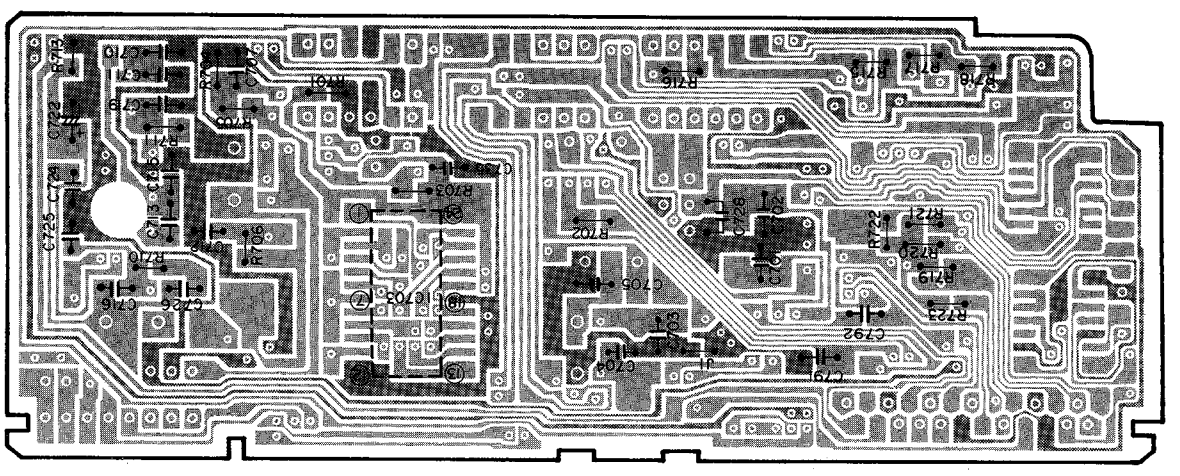
CN704

CN702

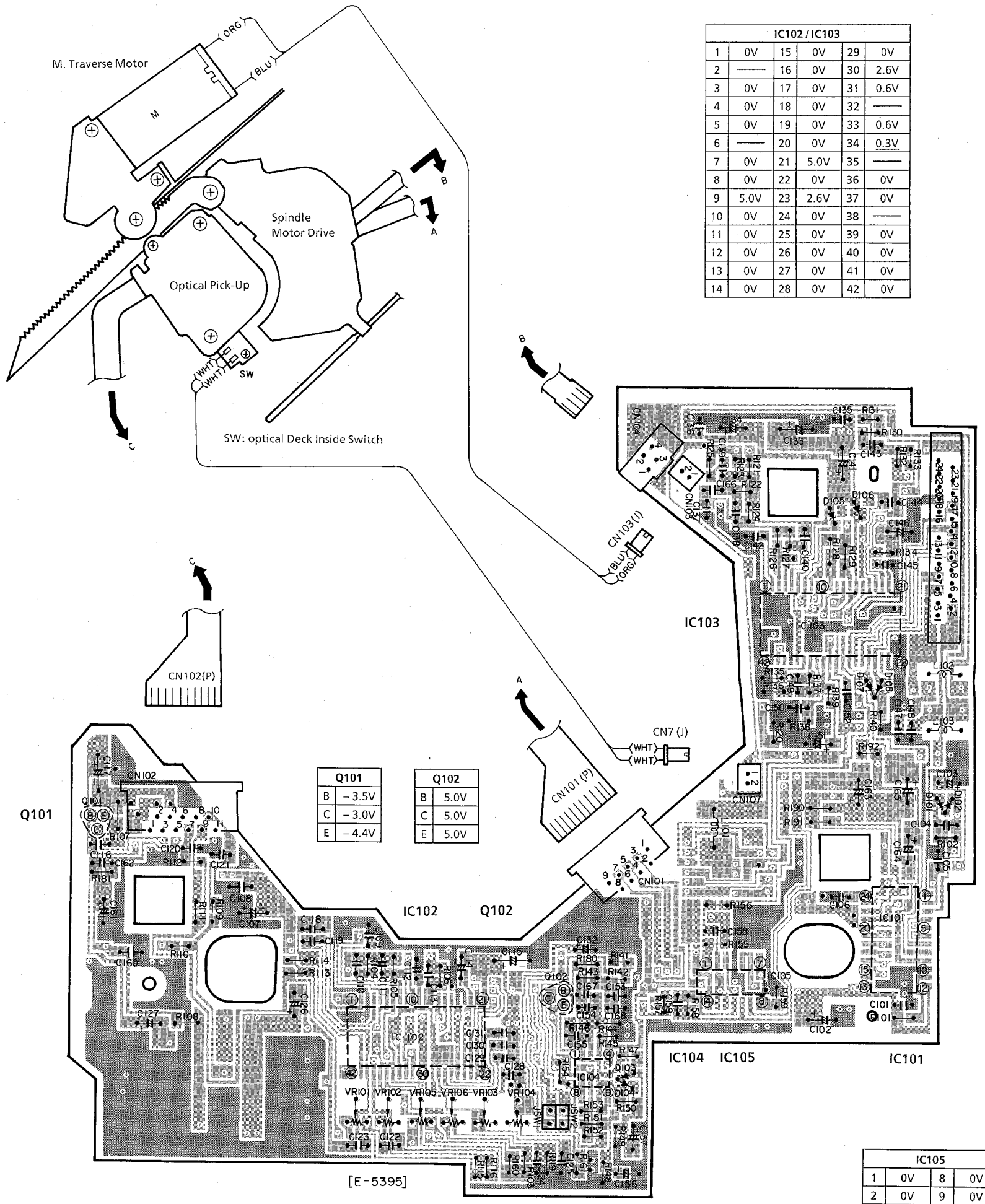
CN703

AM/FM MPX ELECTRONIC TUNING CAR RADIO with CD PLAYER


E5395


To CN702
of Main Block
To CN703
of Main Block
To CN704
of Main Block

WIRING DIAGRAM (SERVO BLOCK) MODEL CQ-DV182A



IC102 / IC103					
1	0V	15	0V	29	0V
2	——	16	0V	30	2.6V
3	0V	17	0V	31	0.6V
4	0V	18	0V	32	——
5	0V	19	0V	33	0.6V
6	——	20	0V	34	0.3V
7	0V	21	5.0V	35	——
8	0V	22	0V	36	0V
9	5.0V	23	2.6V	37	0V
10	0V	24	0V	38	——
11	0V	25	0V	39	0V
12	0V	26	0V	40	0V
13	0V	27	0V	41	0V
14	0V	28	0V	42	0V

Q101	
B	−3.5V
C	−3.0V
E	−4.4V

Q102	
B	5.0V
C	5.0V
E	5.0V

IC104			
1	0V	5	5.0V
2	0V	6	0V
3	0V	7	0V
4	−5.0V	8	0V

IC105			
1	0V	8	0V
2	0V	9	0V
3	0V	10	0V
4	0V	11	0V
5	5.0V	12	5.0V
6	5.0V	13	5.0V
7	−5.0V	14	5.0V

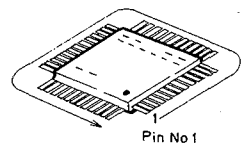
NOTE:
The Spindle drive circuit board is bonded to a steel plate plate and PCB.
Consequently, if parts replacement is difficult, provide a complete printed board assembly as a spare.
Be careful not to cut the flexible PCB on this board, if you cut the flexible PCB, you will have the entire board assembly.

• Chip parts shown in red.

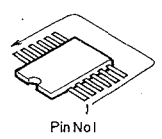
Ic & Transistors

IC701	64Pin
IC702	64Pin

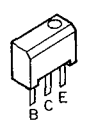
· Q101, 102

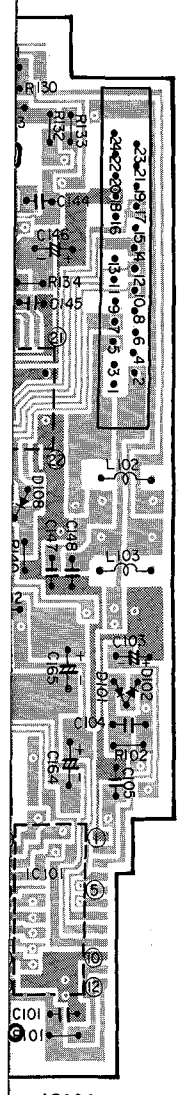


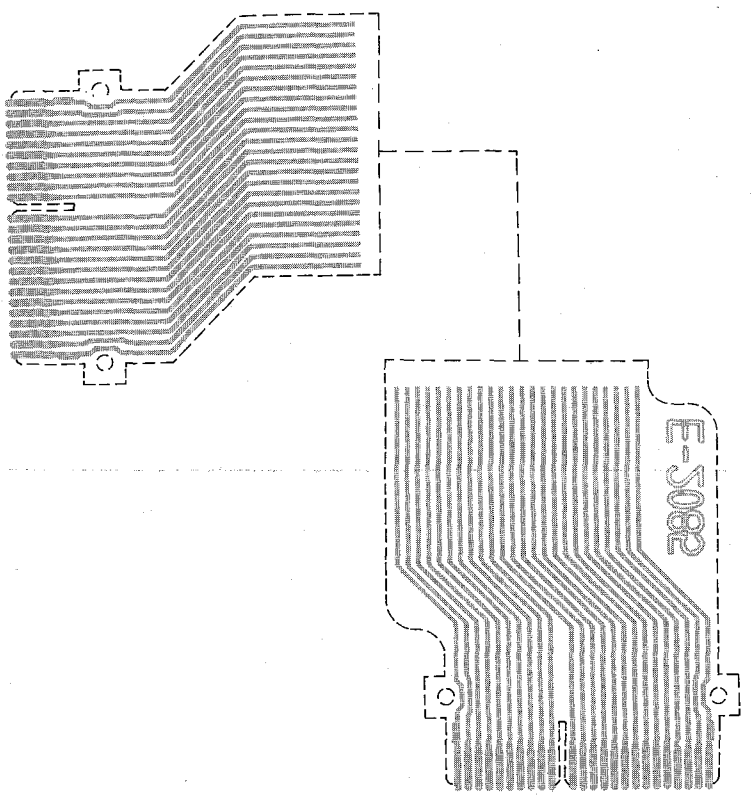
IC101	24Pin
IC102	42Pin
IC103	42Pin
IC104	8Pin
IC105	14Pin
IC703	24Pin
IC704	24Pin



IC707	3 Pin
IC708	3 Pin







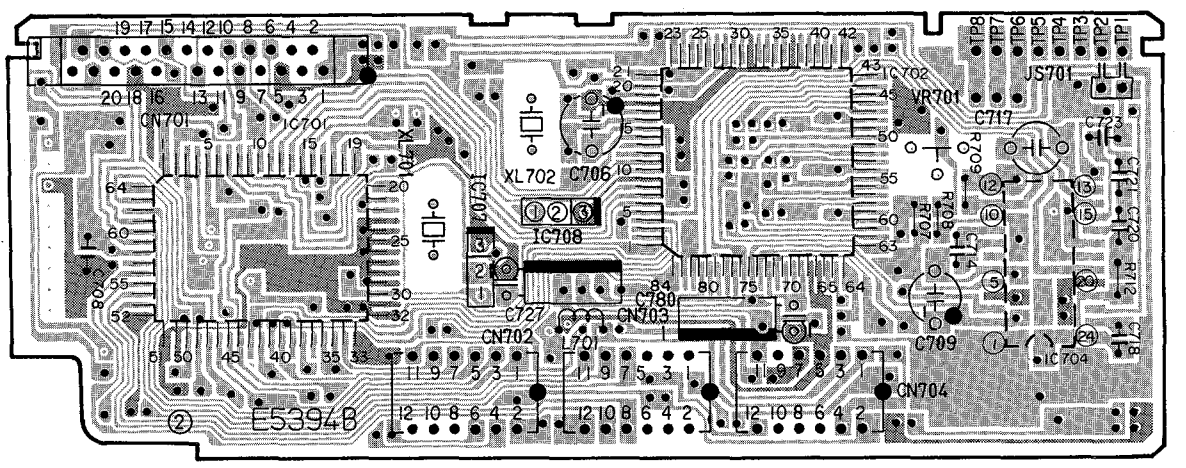
IC707	
1	5.1V
2	5.1V
3	0V

IC708	
1	5.4V
2	5.3V
3	0V

IC703					
1	2.8V	9	1.5V	17	1.7V
2	2.8V	10	1.6V	18	0V
3	2.8V	11	1.6V	19	3.0V
4	2.8V	12	0V	20	1.2V
5	2.8V	13	1.6V	21	5.1V
6	2.8V	14	1.6V	22	3.0V
7	2.8V	15	1.6V	23	2.9V
8	2.8V	16	1.6V	24	5.3V

IC704					
1	– 4.7V	9	4.5V	17	0.3V
2	2.2V	10	5.1V	18	1.7V
3	2.2V	11	0.1V	19	0.3V
4	0V	12	0.1V	20	0V
5	2.1V	13	0.1V	21	– 1.3V
6	——	14	2.8V	22	0.3V
7	——	15	– 0.4V	23	– 2.3V
8	4.5V	16	2.5V	24	– 2.3V

IC707 IC708 IC702



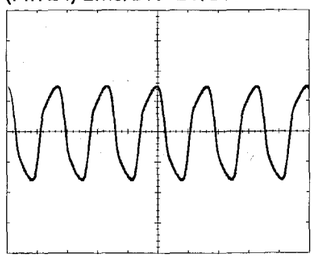
IC701 IC704

IC105			
1	0V	8	0V
2	0V	9	0V
3	0V	10	0V
4	0V	11	0V
5	5.0V	12	5.0V
6	5.0V	13	5.0V
7	– 5.0V	14	5.0V

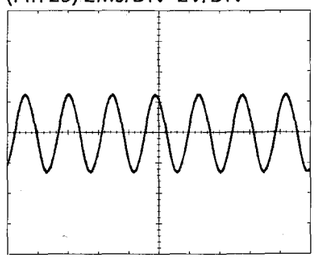
OPERATION OF LSI

● YEAM1719G558

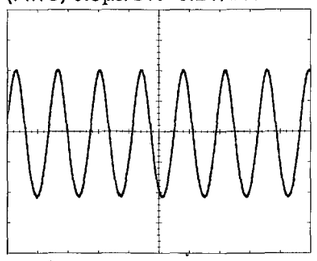
(Pin 24) 2mS/DIV 2V/DIV



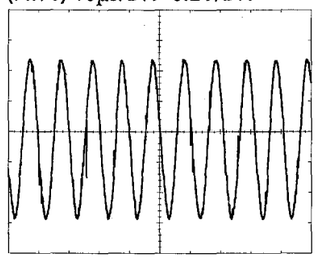
(Pin 25) 2mS/DIV 2V/DIV



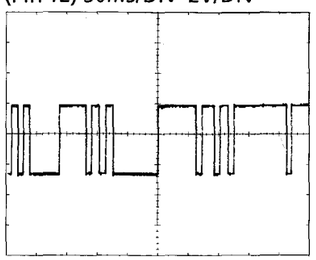
(Pin 5) 0.5µS/DIV 0.2V/DIV



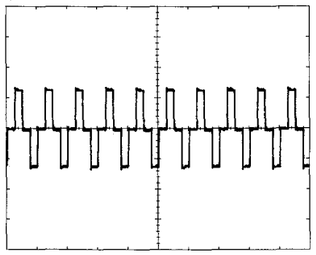
(Pin 6) 10µS/DIV 0.2V/DIV



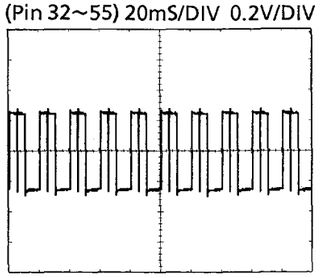
(Pin 12) 50mS/DIV 2V/DIV



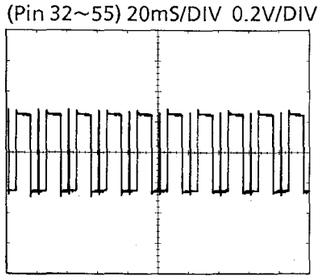
(Pin 56, 57) 20mS/DIV 2V/DIV

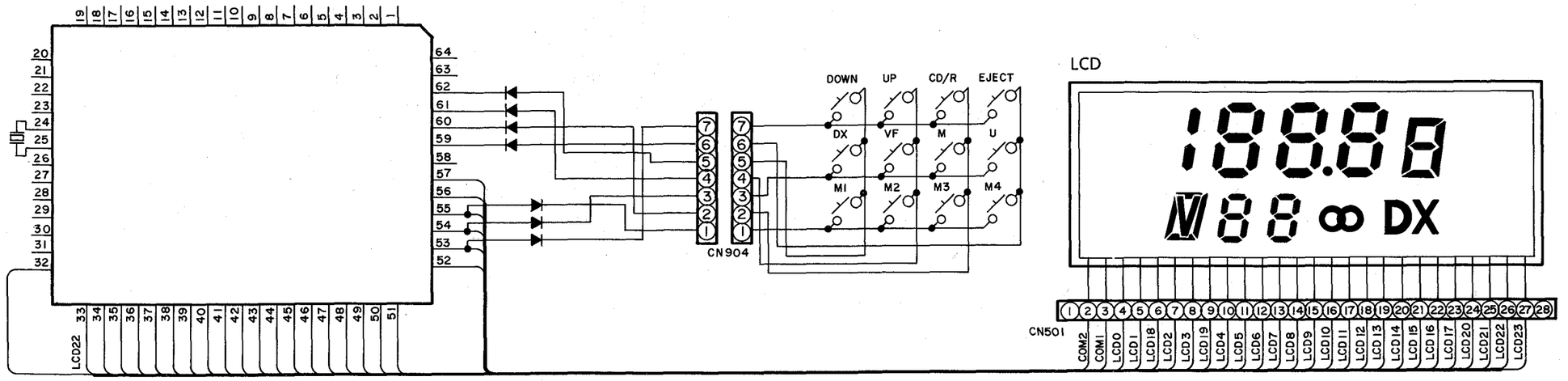


(Pin 32~55) 20mS/DIV 0.2V/DIV



(Pin 32~55) 20mS/DIV 0.2V/DIV



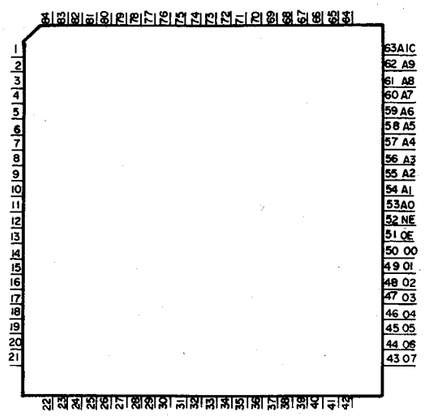


■ YEAM1719G558

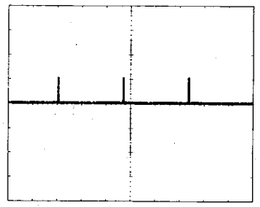
The pin No. 15, 21~23 are communicate to Memory. (IC601)
The pin No. 18~20 are communicate to 75 x (IC701)

Pin	Port	Application	Pin	Port	Application	Pin	Port	Application
1	NC	Not connected	23	PB3	CS	45	LCD10/KS10	LCD
2	E01	Phase sensing signal output	24	X0	4.5MHz X'tal	46	LCD9/KS9	〃
3	E02	Not connected	25	X1	oscillator terminal	47	LCD8/KS8	〃
4	VDD	+ 5V power supply	26	GND	GND terminal	48	LCD7/KS7	〃
5	VCOL (AM)	AM CH select signal input	27	CGP	DTS MUTE output	49	LCD6/KS6	〃
6	VOCL (FM)	FM CH select signal input	28	LCD27/PL3	Not connected	50	LCD5/KS5	〃
7	CE	Chip enable input	29	LCD26/PL2	FM Select signal output	51	LCD4/KS4	〃
8	VDD	Internally connected with pin 4	30	LCD25/PL1	AM select signal output	52	LCD3/KS3	LCD Key Matrix output
9	PD1	SSC output	31	LCD24/PL0	DX output	53	LCD2/KS2	〃
10	PD2	Not connected	32	LCD23	LCD	54	LCD1/KS1	〃
11	PD3/SD1	Radio/CD select	33	LCD22	〃	55	LCD0/KS0	〃
12	PC0	BK signal input	34	LCD21	〃	56	COM1	LCD
13	PC1	SK signal input	35	LCD20	〃	57	COM2	〃
14	PC2	Stereo Signal input	36	LCD19	〃	58	GND	GND terminal
15	PC3	SSC2	37	LCD18	〃	59	K3	Key Matrix input
16	PA0/AM IF	AM IF counter input	38	LCD17	〃	60	K2	〃
17	PA1/FM IF	FM IF counter input	39	LCD16	〃	61	K1	〃
18	PA2/SI	Radio data A	40	LCD15/KS15	〃	62	K0	〃
19	PA3/SCK	Radio SCK	41	LCD14/KS14	〃	63	AD	SD signal input
20	PB0/S0	Radio data B	42	LCD13/KS13	〃	64	$\overline{INT}$	DK signal input
21	PB1/SDC	Mute signal output	43	LCD12/KS12	〃			
22	PB2/SD0	HAR	44	LCD11/KS11	〃			

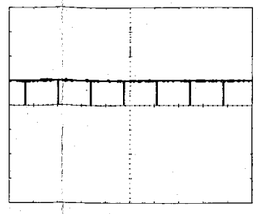
● MN6617C



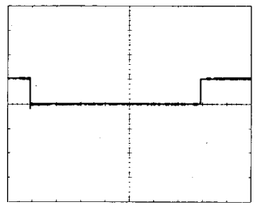
(Pin 1) 0.5V/DIV 5mS/DIV



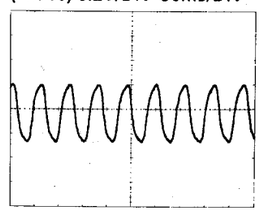
(Pin 2) 0.5V/DIV 0.1mS/DIV



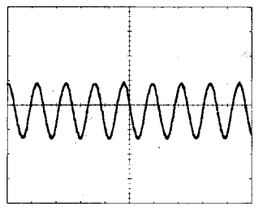
(Pin 8) 0.5V/DIV 0.5S/DIV



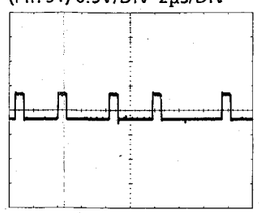
(Pin 16) 0.2V/DIV 50mS/DIV



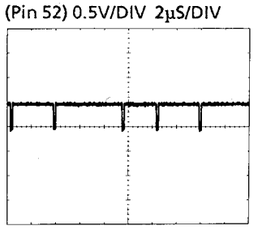
(Pin 17) 50mV/DIV 50mS/DIV



(Pin 51) 0.5V/DIV 2µS/DIV



(Pin 52) 0.5V/DIV 2µS/DIV



■ MN6617C

Pin	Port	Application
1	BLKCK	Sub-code block clock
2	CLDCK	Sub-code frame clock
3	SUBQ	Sub-code Q code output
4	CRC	Sub-code Q code check
5	RST	Microcomputer command: Reset input
6	MLD	Microcomputer command: Load input
7	MCLK	Microcomputer command: Clock
8	MDATA	Microcomputer command: Data
9	DMUTE	Mute input
10	TRON	Tracking servo ON signal
11	STAT	Status
12	SMCK	X'tal 4.2336 MHz
13	PMCK	X'tal 5292 kHz
14	ITC	Track counter input signal
15	TEST	Test mode select signal
16	X2	X'tal 26.9344 MHz
17	X1	
18	SEL	DA output switchover
19	LDG/WDCKS	
20	RDG	
21	DEMPH	De-emphasis ON signal

Pin	Port	Application
22	IPFLAG	Interpolation flag
23	FLAG0	Error flag
24	FLAG5	16K RAM dress reset signal
25	XCK	X'tal clock output
26	DA15/SRDATA	DATA parameter output: Serial output data: MSB first
27	DA14/SRDATAX	LSB first
28	DAB/SRCK	Pick lock
29	DA12/WDCK	Word clock
30	DA11/BYTCK	Byte clock
31	GND	GND potential terminal
32	DA10/R/L	DA parameter output: R/L signal
33	DA9/RESY	Re-sync signal
34	DA8/FCLV	Sync detect signal
35	DA7/IPBYTE	Bit interpolation flag
36	DA6/IPSEL	Interpolation inhibit
37	DA5/FLAG5	C2 decoder correct flag 3
38	DA4/FLAG4	〃 2
39	DA3/FLAG3	〃 1
40	DA2/FLAG2	C1 decode correct flag 2
41	DA1/FLAG1	〃 1
42	DA0/FCLK	Frame clock

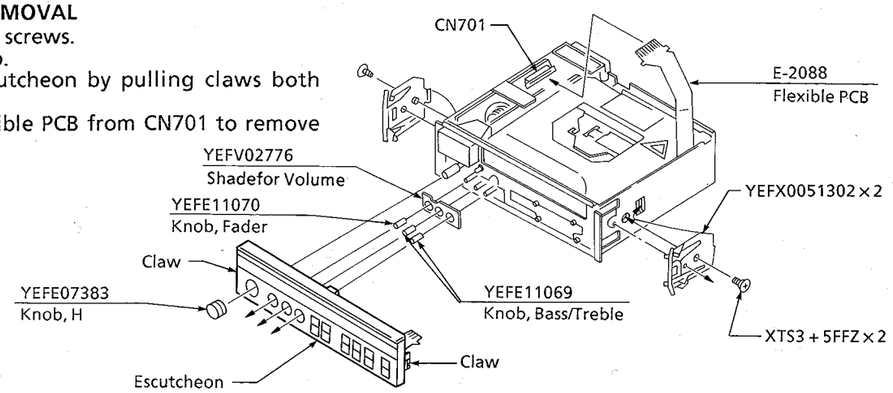
Pin	Port	Application
43	D7	16K RAM Data
44	D6	〃
45	D5	〃
46	D4	〃
47	D3	〃
48	D2	〃
49	D1	〃
50	D0	〃
51	RAMWE	16K RAM WE signal
52	RAMOE	16K RAM OE signal
53	RAMA0	16K RAM address
54	RAMA1	〃
55	RAMA2	〃
56	RAMA3	〃
57	RAMA4	〃
58	RAMA5	〃
59	RAMA6	16K RAM address
60	RAMA7	〃
61	RAMA8	〃
62	RAMA9	〃
63	RAMA10	〃

Pin	Port	Application
64	PC	Spindle moter ON signal
65	EC	Spindle moter drive signal
66	FG	Spindle moter FG input
67	VCNT	VCO control vottage input
68	REXT	VCO resistance terminal
69	VDD1	VCO + 5V Power terminal
70	PD	Phase comparator output
71	PCK0	VCO output
72	PCK	PLL extract clock input
73	VDD	+ 5V Power
74	EFM	EFM input: (PLL output)
75	SRF	EFM input: (OSL output)
76	DO	Dropout signal
77	CLVS	CLV servo OK signal
78	FPC	PLL frequency extract signal
79	BSSEL	PLL frequency pull-in operation
80	SRFO	Data slice output
81	NSRF	〃
82	RF	Data slice input
83	SUBC	Sub-code serial output data
84	SBCK	Sub-code serial output clock

DISASSEMBLY INSTRUCTIONS

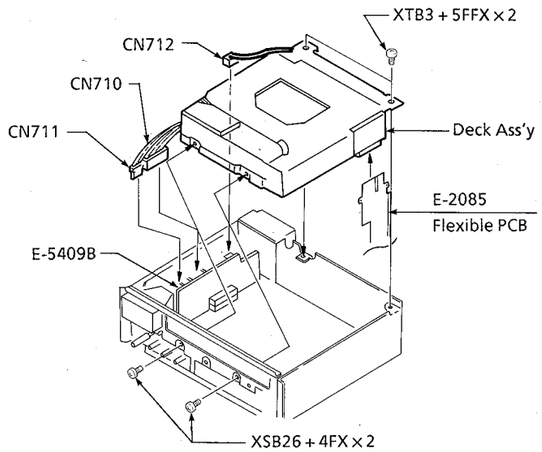
1. ESCUTCHEON REMOVAL

- Take out the two screws.
- Pull out the knob.
- Pull out the escutcheon by pulling claws both side.
- Pull out the flexible PCB from CN701 to remove Deck ass'y.



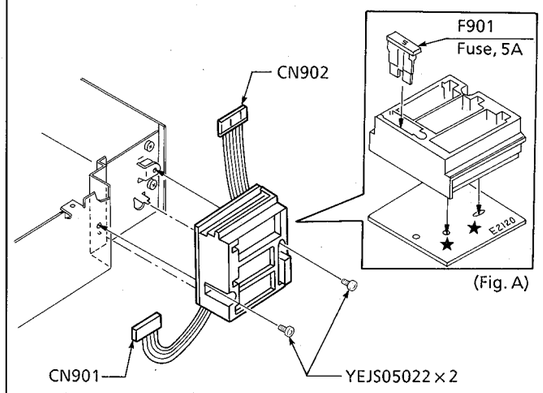
2. DECK ASS'Y REMOVAL

- Take out the four screws.
- Pull out the CN710, CN711, CN712 and flexible PCB.



3. POWER PCB (E-2120) REMOVAL

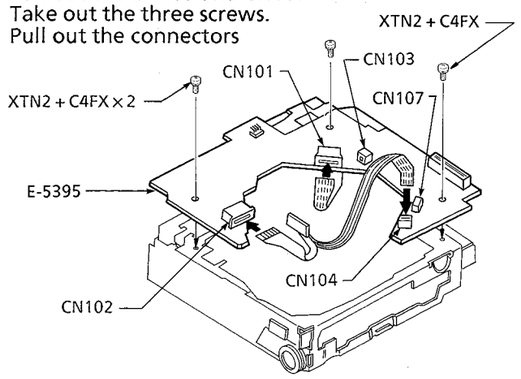
- Pull out the CN901 and CN902.
- Take out the two screws.
- Melt the solder of ★marks.(Fig.A)



(Fig. A)

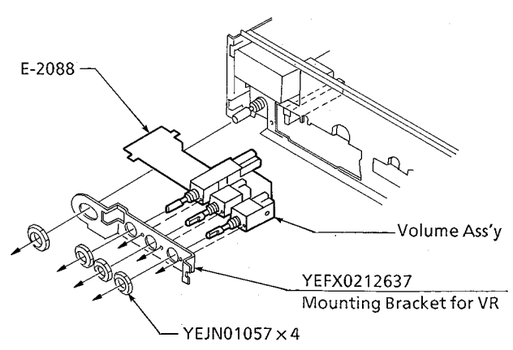
4. SERVO PCB (E-5394B) REMOVAL

- Pull out the flexible PCB from CN101, CN102 and CN104.
- Pull out the CN103 and CN107.
- Take out the three screws.
- Pull out the connectors



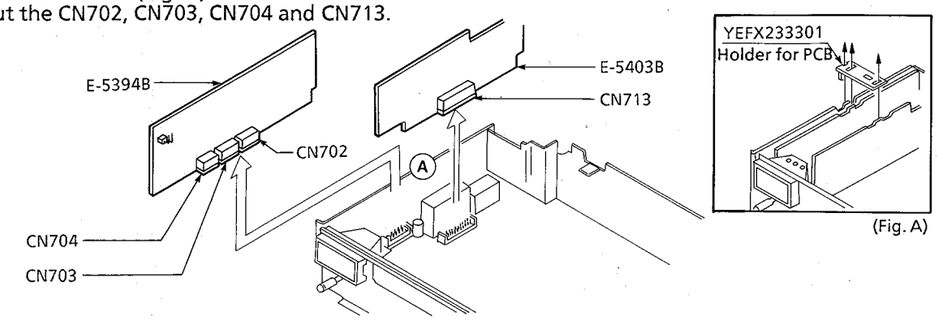
5. VOLUME ASS'Y REMOVAL

- Remove the four Nuts.



6. E-5394B PCB AND E-5403B REMOVAL

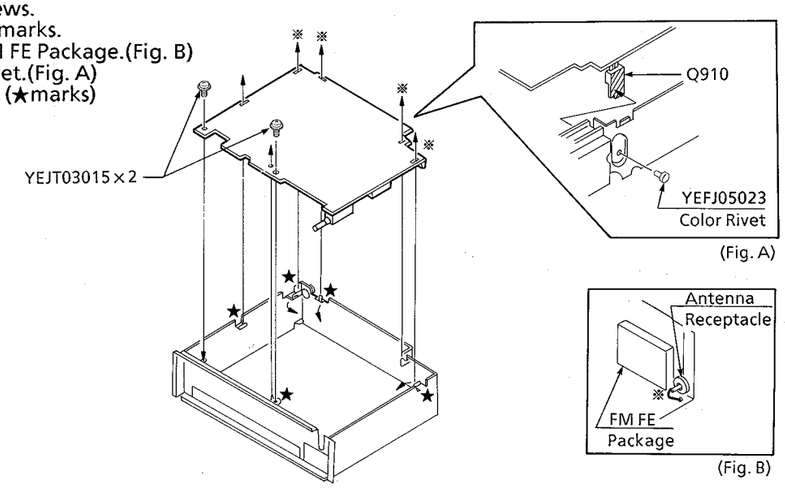
- Remove the holder. (Fig. A)
- Pull out the CN702, CN703, CN704 and CN713.



(Fig. A)

7. MAIN PCB (E-6229A) REMOVAL

- Take out the two screws.
- Melt the solder of ※ marks.
- Melt the solder of FM FE Package.(Fig. B)
- Take out the color rivet.(Fig. A)
- Remove the calkings. (★marks)

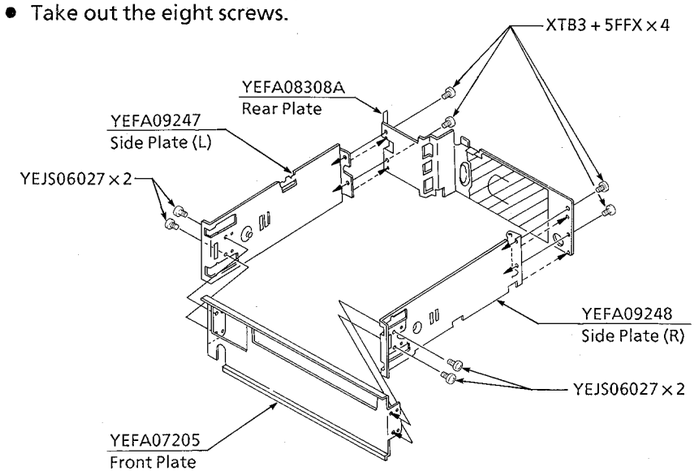


(Fig. A)

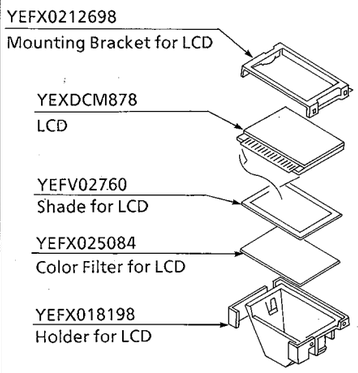
(Fig. B)

8. CHASSIES REMOVAL

- Take out the eight screws.



9. LCD REMOVAL

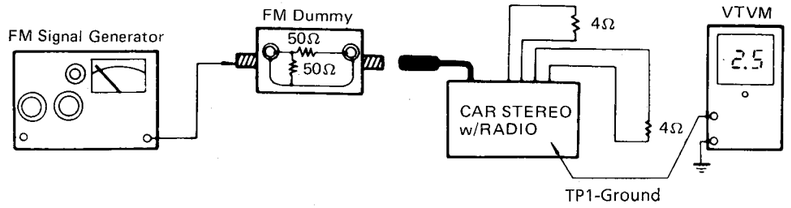


ALIGNMENT INSTURUCTIONS

- Power Supply Voltage : DC 14.4V
- Output Impedance : 4Ω
- Output Power : 0.5W
- Balance Control : Center
- Fader Control : Center
- Tone Control(Bass/Tre) : Center
- Volume Control : Set for 0.5W output

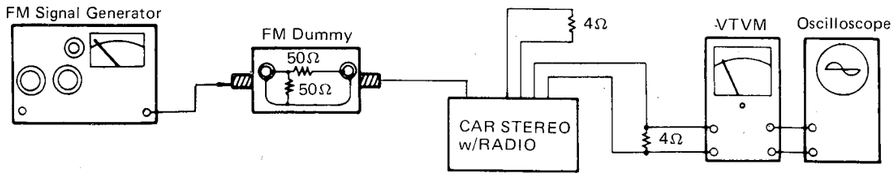
1. FM CONTROL VOLTAGE ALIGNMENT

Step	Alignment Item	Band Select	Signal Input Level	Input Terminal	VTVM Connection	Frequency Display (Radio)	Adjust	Remarks
1	FM CONTROL VOLTAGE	FM	98.1 MHz 24 dB/μV [22.5kHz]	Antenna Receptacle	TP1-Ground	98.1 MHz	VR552	•Adjust for 2.5 ± 0.1V



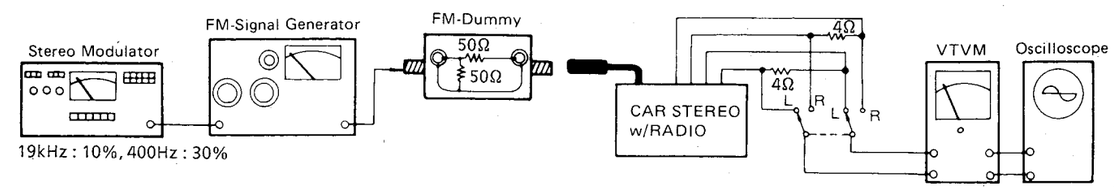
2. FM SOFT MUTE ALIGNMENT

Step	Align-ment Item	Band Select	Signal Input Level	Input Terminal	VTVM Connection	Display	Adjust	Remarks
2	FM SOFT MUTE	FM	98.1 MHz 54 dB/μV [400Hz] [22.5kHz]	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR551	•At this time; output level is 0 dB. •Adjust output level for – 30dB at – 20dB input.



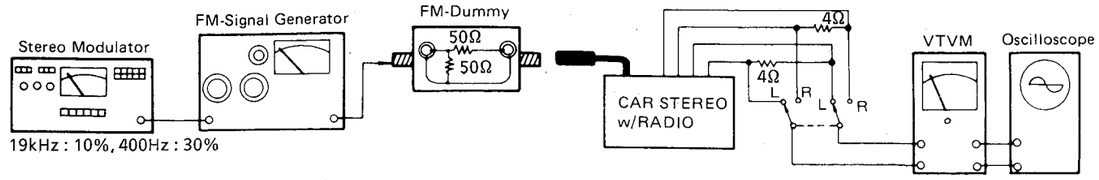
3. FM MULTIPLEX SEPARATION ALIGNMENT

Step	Align-ment Item	Band Select	Signal Input Level	Input Terminal	VTVM Connection	Display	Adjust	Remarks
3	FM MPX	FM	98.1 MHz 80 dB/μV [400Hz Mod.]	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR553	•Adjust for maximum separation.



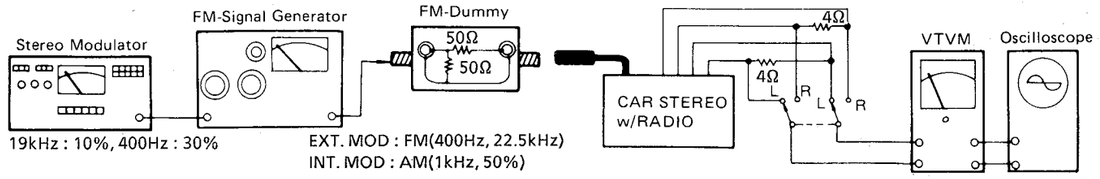
4. FM ASC ALIGNMENT

Step	Align-ment Item	Band Select	Signal Input Level	Input Terminal	VTVM Connection	Display	Adjust	Remarks
4	FM ASC	FM	98.1 MHz 43 dB/μV [400Hz Mod.]	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR555	•Adjust for 20 dB separation at 43 dB/μV input.



5. AMDC ALIGNMENT

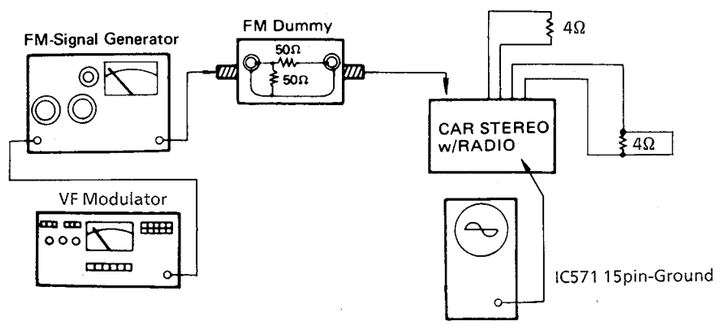
Step	Align-ment Item	Band Select	Signal Input Level	Input Terminal	VTVM Connection	Display	Adjust	Remarks
5	AMDS	FM	98.1 MHz 54 dB	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR554	•Adjust for 10 dB separation at 54 dB input.



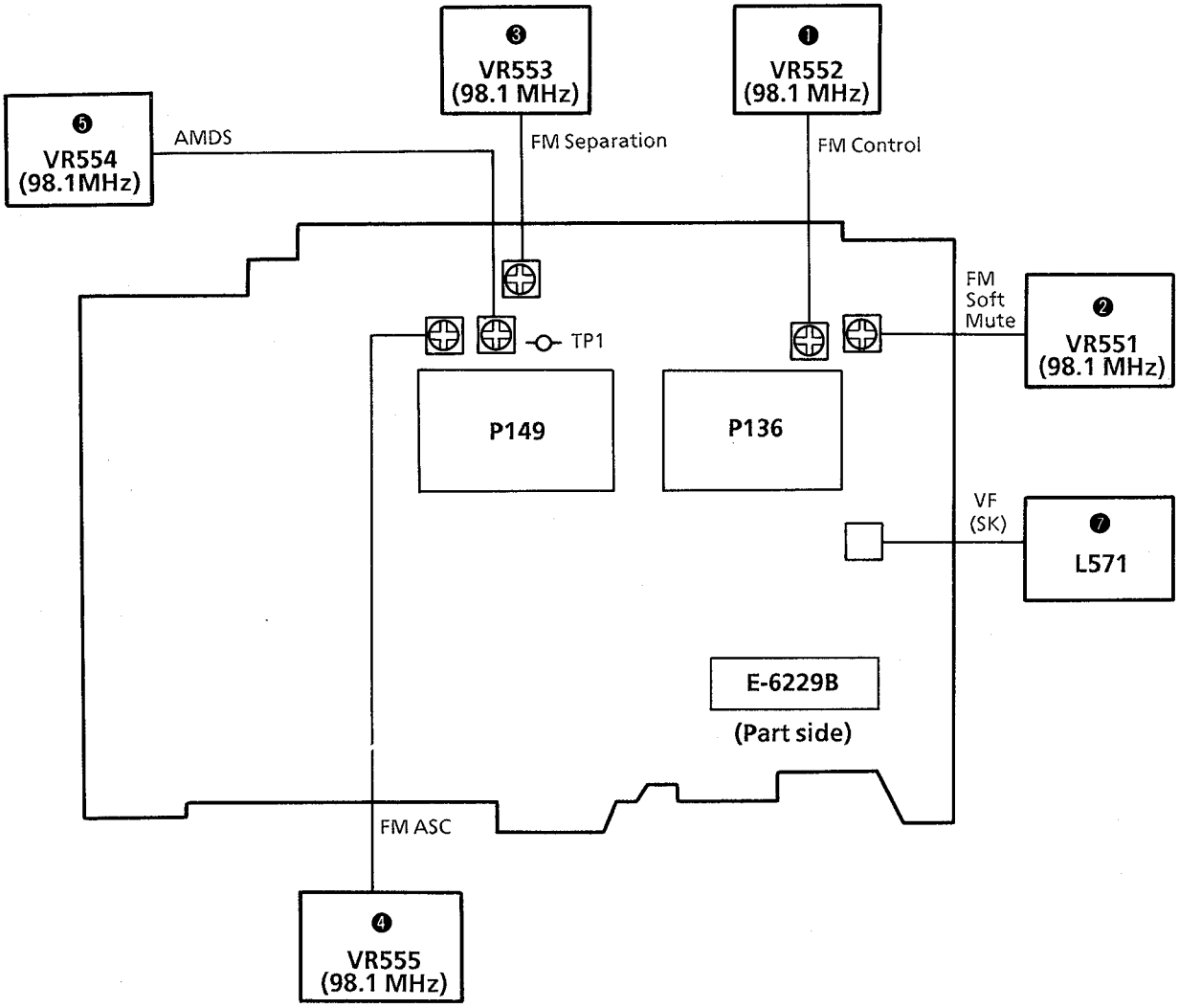
6. If item 4 is off after adjusting up to this point, readjust items 4 and 5.

7. VF (SK) ALIGNMENT

Step	Align-ment Item	Band Select	Signal Input Level	Input Terminal	Oscilloscope Connection	Display	Adjust	Remarks
7	VF (SK)	VF	98.1 MHz	Antenna Receptacle	IC571 15pin-Ground	98.1 MHz	L571	•Adjust L571 until the waveform is maximum at pin 15 of IC571.



ALIGNMENT POINTS



ALIGNMENT INSTRUSTION (CD BLOCK)

1. MEASURING INSTRUMENTS AND TOOLS

1. CD adjusting jig.
2. Two-channel oscilloscope.
3. Low-frequency oscillator.
4. Screwdriver for adjusting semi-fixed variable resistors.
5. Resistor (4.7 kΩ, 1/4W)

"Caution-use" of controls or adjustments or performance of procedures other than those specified there in may result in hazardous radiation exposure.

2. ALIGNMENT PROCEDURES AND POINTS

Remove the top case and bottom case, solder the leads to TP and JSW on the back of the circuit board, and follow the sequence below.

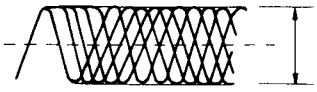
Note : Do not attemp alignments when the deck is removed.

1) Focus balance alignment VR102 (IC102-Pin31)
2) Focus gain alignment VR103 (JSW2)
3) Tracking gain alignment VR106 (JSW1)
4) Focus offset alignment VR104 (IC102-Pin31, Pin36)
5) Tracking offset alignment VR105 (IC102-Pin31, Pin36)
6) Tracking balance alignment ..... VR101 (JSW1 both ends of terminals)

After adjustment the above, disconnect the leads, return the JSW short plugs as they were before, and check performance.

① Focus balance alignment (Best eye)

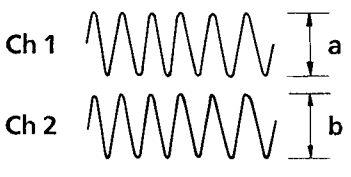
- Test point : Connect a series resistor of 4.7kΩ to IC102-Pin31
- Oscilloscope setting : Volt ..... 20mV Sweep ..... 0.1ms Input selector ..... AC
- Operation : Insert disc and play.
- Alignment : RF signal appears. Adjust VR102 until the pattern extends widest.
- Waveform sample :



Adjust to make the extend widest.

② Focus gain alignment (Use of Adjusting jig)

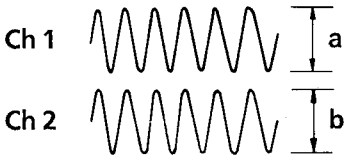
- Test point : Both ends of JSW2 (Remove short plugs)
- CD Adjusting jig connection
  1) Clip ..... Chassis
  2) Lead + 10V (orange) ..... + 5V (CN105 4Pin)
  3) Lead – 10V (red) ..... – 5V (CN105 23Pin)
  4) Lead JSW IN (green) ..... JSW2 IN
  5) Lead JSW OUT (yellow) ..... JSW2 OUT
  6) OSC terminal ..... Low frequency OSC
  7) Monitor Ch1, Ch2 terminals ..... Oscilloscope probe Ch1, Ch2
- Low frequency oscillator setting
  1) Frequency ..... 600 Hz
  2) Level ..... 100mV p-p
- Oscilloscope setting(Ch1, Ch2) :
  Volt ..... 50mV Sweep ..... 0.2ms Input selector ..... AC
- Operation : Set the lever switch on the CD adjusting to TEST. Insert a disc and play.
- Alignment : Adjust VR103 until the level of both channels at 1,000 Hz are the same.
- After the alignment, be sure the short plugs JSW2 at they were before.
- Waveform sample :



(Adjust to a = b.)

③ Tracking gain alignment (Use of Adjusting jig)

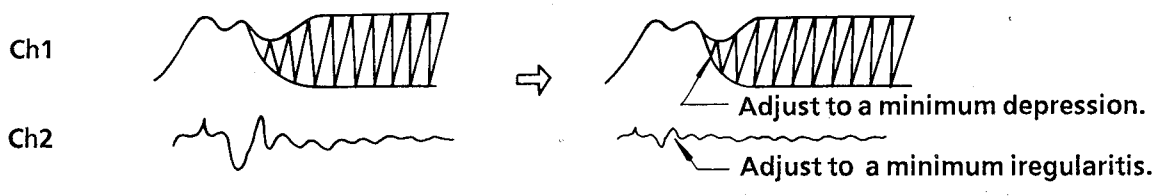
- Test point : Both ends of JSW1 (Remove short plugs)
- CD Adjusting jig connection
  1) Clip ..... Chassis
  2) Lead + 10V (orange) ..... + 5V (CN105 4Pin)
  3) Lead – 10V (red) ..... – 5V (CN105 23Pin)
  4) Lead JSW IN (green) ..... JSW1 IN
  5) Lead JSW OUT (yellow) ..... JSW1 OUT
  6) OSC terminal ..... Low frequency OSC
  7) Monitor 1, 2 terminals ..... Oscilloscope probe Ch1, Ch2
- Low frequency oscillator setting
  1) Frequency ..... 1 kHz
  2) Level ..... 50mV p-p
- Oscilloscope setting(Ch1, Ch2) :
  Volt ..... 50mV Sweep ..... 0.2ms Input selector ..... AC
- Operation : Set the lever switch on the CD adjusting to TEST. Insert a disc and play.
- Alignment : Adjust VR106 until the level of both channels at are the same.
- After the alignment, be sure the short plugs JSW1 at they were before.
- Waveform sample :



(Adjust to a = b.)

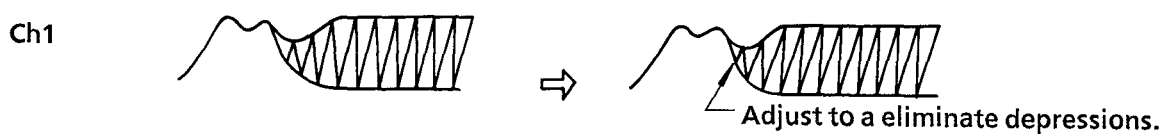
④ Focus offset alignment

- Test point : Connect a resistor of 4.7kΩ to IC102-Pin31 in series to Ch1, JSW2 to Ch2.
- Oscilloscope setting(Ch1, Ch2) :
  Volt ..... 50mV Sweep ..... 0.2ms Input selector ..... AC
- Operation : Insert a test disc and play. Reproduce a black band of 0.5mm.
- Alignment :
  a) Watch the eye pattern for Ch1, and make a fine adjustment of VR104 to a minimum depression.
  b) Also make a fine adjustment of VR104 so that FE signal for Ch2 will be as possible.
- Waveform sample :



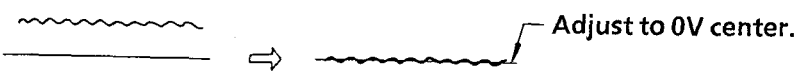
⑤ Tracking offset alignment

- Test point : Connect a resistor of 4.7 kΩ to IC102-Pin31 in series to Ch1.
- Oscilloscope setting(Ch1) : Volt ..... 50mV Sweep .. 0.2ms Input selector ..... AC
- Operation : Insert a test disc and play. Reproduce a black band of 0.5mm.
- Alignment : a) Watch the eye pattern and make a fine adjustment of VR105 to a eliminate depression.
- Waveform sample :

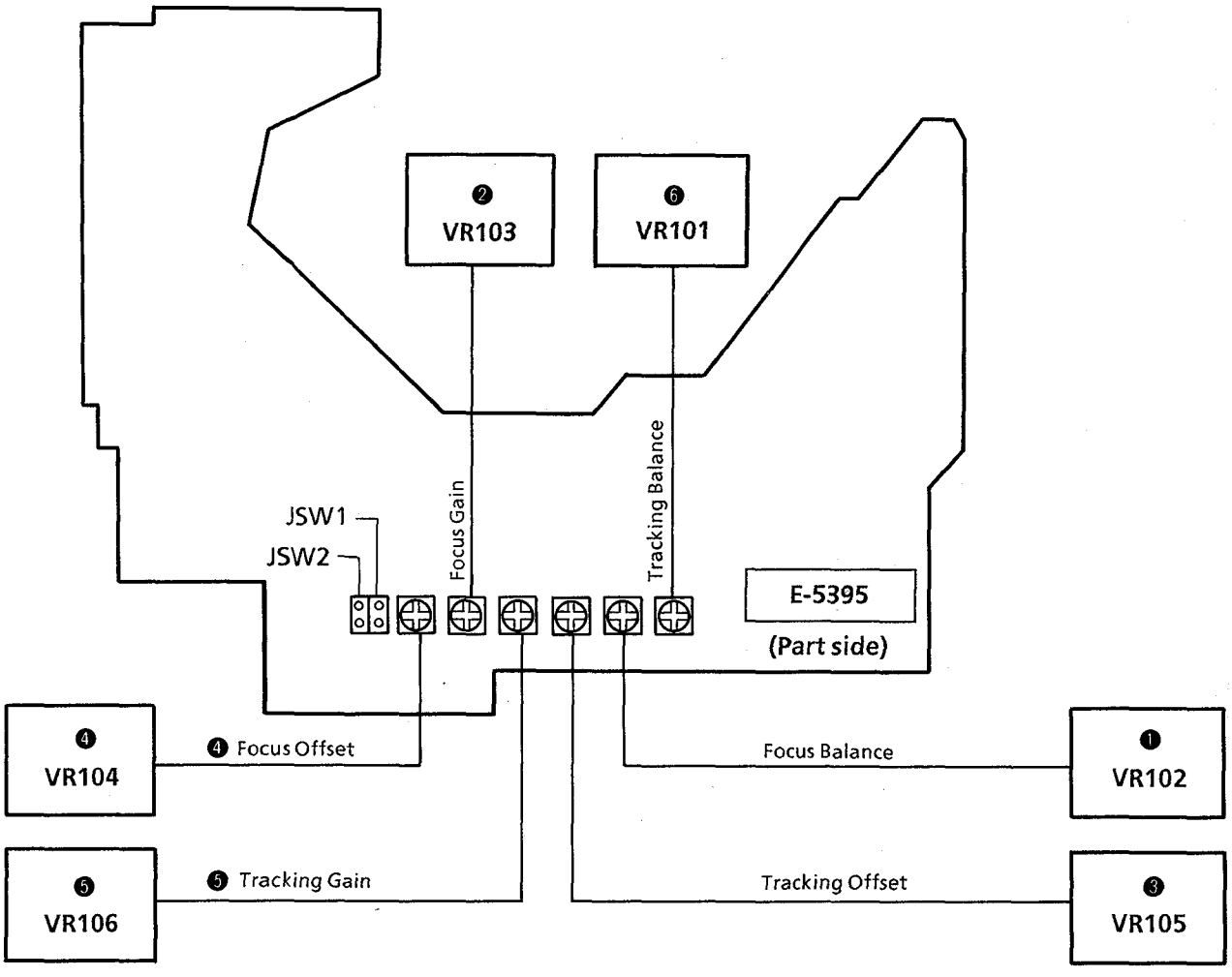


⑥ Tracking balance alignment

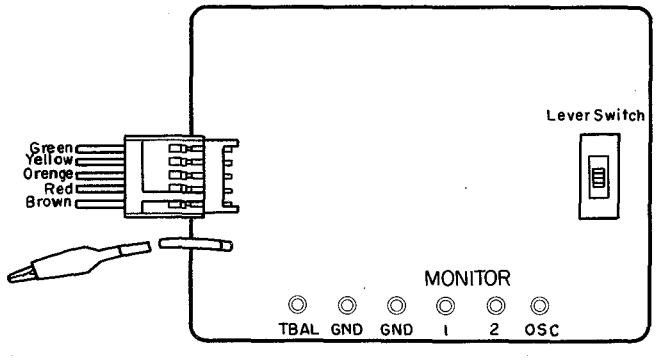
- Test point : JSW1 both ends of terminals, TP1
- CD Adjusting jig connection
  1) Clip ..... Chassis
  2) Lead. TP 5(brown) IC102 7pin
  3) T BAL terminal ..... Oscilloscope probe
  4) Lead JSW IN (green), lead JSW OUT (yellow) ..... Both ends of JSW1 (Remove short plug)
- Oscilloscope setting : Volt ..... 20mV Sweep .. 0.1ms Input selector ..... DC
- Operation : Set the lever switch on the CD adjusting to on. Insert a disc and play.
- Alignment : Shift lever switch to OFF, and adjust VR101 so that the center of the waveform will be 0V with in 15 seconds.
- Waveform sample :



ALIGNMENT POINTS(SERVO BLOCK)



■Ajustment Jig



THEFT PROTECTION OPERATION

Note: After the completion of board assembly all the circuits must be reset without fail when the power switch is turned on first.

■ LSI memory operation

	OPERATION	DISPLAY
1	• Connect the set to the 14.4V power supply, and turn on the POWER switch.	• Since no measure is taken for safety coding, normal indication and operation are performed.
2	• With the VF button kept pressed in advance press the M button for three second or more. Then the LSI is ready for SAFETY key input.	• After continuous pressing "CodE" is displayed for three seconds. Since then the display turns into "1000"
3	• Input a safety code from the black box into the LSI. (Press buttons 1~4 for above mentioned code input.)	1111 (Tentative number) Note; Each of the four digits is 1 or 0 not displayed.
4	• Left the LSIstore data by the same operation as described in (2) (above).	• After continuous pressing , the display turned into "SAFE" frequency is displayed when the VF and M buttons are released from pressing.

■ Safety function ON

	OPERATION	DISPLAY
1	• Turn the POWER ON.	• A Frequency display is presented. • Normal display and operation are performed. By this time, a safety code only has been entered in the LSI.
2	• With the VF button kept pressed in advance press the M button for three second or more. Then the microcomputer is ready for coding.	• Three seconds thereafter, the display turns from "CodE" into "1000"
3	• Enter data from buttons 1~4 out of the preset buttons.	1111 (Tentative number) The same data as the number generated from the black box.
4	• VF and M buttons turned ON.	• When the buttons are released, the display turns from "SAFE" into frequency.
5	• Turn the POWER OFF.	• None

■ Safety Operation (After disconnecting the battery)

	OPERATION	DISPLAY
1	• Turn the POWER ON.	"SAFE" displayed.
2	• VF and M buttons turned ON.	"1000 " displayed. 1
3	• Enter data from buttons 1~4 out of the preset buttons.	"1111 " (Tentative number) 1
4	• VF and M button turned ON.	• The display turn into "SAFE". and a frequency is displayed when the VF and M buttons are released ordinary operation is performed then.
	Note; In case of failure in entering data through buttons 1~4 of the preset buttons, "SAFE" flashes and it is turned into " SAFE", when the VF and M buttons are pressed again. "1000" is displayed. As described in (3) above, If a wrong input key number is entered, "SAFE" is displayed and no operation takes place, one hour later, operation can be started by following the step 2.	

Replacement Parts List
Model NO. CQ-DV182A

NOTES :

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice : Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Next to the Ref. No. in the parts list is a location key, to show the general location of the parts shown in the exploded drawing, as in a road map.
4. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
MISCELLANEOUS					
⚠F901 (3-C)	YEAF02002		Fuse, 5A	1	
Z51 (1-C)	YEAL02007		Neon Tube	1	
PL (2-B)(3-B)	YEAL01116		Pilot Lamp	5	
PL906 (3-B)	YEAL01112		Pilot Lamp	1	
CN101 (3-B)	YEAE01968		9P Connector	1	
CN102 (3-B)	YEAE011117		11P Connector	1	
CN103 (3-B)	EMCS0254B		2P Plug	1	
CN104 (3-B)	YEAE01970		4P Connector	1	
CN105 (3-B)	YEAE011118		23PConnector	1	
CN107 (3-B)	EMCS0254B		2P Plug	1	
CN201 (1-B)	YEAE01789		19P Connector	1	
CN601 (1-C)	YEAE011229		28P Connector	1	
CN701 (2-B)	YEAE011118		24P Connector	1	
JS701 (1-B)	YEAE0102ASL,		2P Connector	1	
CN702 (2-B)	YEAE011230		12P Connector	1	
CJ702 (1-B)	YEAE011231		12P Connector	3	
CN703 (2-B)	YEAE011230		12P Connector	1	
CJ703 (1-B)	YEAE011231		12P Connector	1	
CN704 (2-B)	YEAE011230		12P Connector	1	
CJ704 (1-B)	YEAE011231		12P Connector	1	
CN710 (2-B)	EMCS0850ZL		8P Plug	1	
CN711 (2-B)	EMCS0250ML		2P Plug	1	
CN712 (2-B)	YEAEM2002L		2P Connector	1	
CN713 (1-B)	YEAE011166		22P Connector	1	
CJ713 (1-B)	YEAE011166		22P Connector	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
CN901 (2-B)	EMCS0850Z		8P PLug	1	
CJ901 (3-C)	EMCZ0805D85H		5P Jack	1	
CN902 (1-C)	EMCS0750Z		7P Plug	1	
CJ902 (3-C)	EMCZ0707D85H		7P Jack	1	
CN903 (1-C)	YEAE0102ASL		2P Connector	1	
CN903 (J) (1-B)	EMCZ0206D65		2P Jack	1	
CN904 (1-B)	YEAE011009		7P Connector	1	
JSW1.2 (3-B)	YEAE03119		Short Plug	1	
1 (4-C)	YEFX0212636		Bracket Rear, CD	1	
2 (3-B)	YEFV011124		Insulator	1	
3 ◆	XSB26 + 4FX		⊕ Screw 2.6mmΦ×4mm	4	
4 ⚠	XSB2 + 4FX		⊕ Screw 2mmΦ×4mm	3	
5 (2-B)	YEFC022849A		Escutcheon Ass'y	1	
6 (2-A)	YEFE07383		Knob	1	
7 (2-A)	YEFE11069		Knob, BASS/TREB	2	
8 (2-A)	YEFE11070		Knob, FADER	1	
9 (1-A)(4-C)	YEFA03921		Cover	2	
10 (2-C)(3-A)	YEFX0051302		Spring	2	
11 (3-A)	YEFX233301		Holder for PCB	1	
12 (4-C)	YEFV011096		Insulator	1	
13 ◈	XTB3 + 5FFX		⊕ Screw, Bind Tapping 3mmΦ×5mm	7	
14 ◎	XTS3 + 5FFZ		⊕ Screw, Bind 3mmΦ×5mm	2	
15 (1-C)	YEFA13504		Case for L901	1	
16 (1-B)	YEFJ05023		Color Rivet	1	
17 (3-C)	YEAP2085		Flexible PCB	1	
18 (3-C)	YEAP2120		DC/DC PCB	1	
19 (1-C)	YEAJ18123		Shield Wire	1	
20 (2-B)	YEFA07205		Front Plate	1	
21 (3-A)	YEFA09247		Side Plate (L)	1	
22 (2-C)	YEFA09248		Side Plate (R)	1	
23 (3-C)	YEFA08308A		Rear Plate	1	
24 (3-C)	YEAA10051		Antenna Receptacle	1	
26 (2-B)	YEFX0212637		Mounting Bracket for VOL	1	
27 (1-C)	YEFA13804		Shield Case	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
29 (3-C)	YEFJ05040		Rivet Color	1	
30 (3-A)	YEFX025084		Color Filter, LCD	1	
31 (3-A)	YEFX018198		Holder, LCD	1	
32 (2-A)	YEFX0212698		Mounting Bracket for LCD	1	
33 (2-A)	YEFV02760		Shade for LCD	1	
34(2-B)(3-B)	YEFR04353		Illumination Cap	5	
35 (3-B)	YEFV011100		Insulator, Side	1	
36 (1-B)	YEFV011101		Insulator DC / DC	1	
37 (3-C)	YEFV011099		Insulator, Rear	1	
38 ⊙	YEJS05022		⊕ Screw 2.6mmφ×12mm	2	
39 ☆	YEJS06027		⊕ Screw	4	
40 ※	YEJT03015		⊕ Screw,Cuptight 3mmφ×6mm	2	
41 (2-B)	YEJN01057		NUT 7mmφ	4	
42(1-B)(3-B)	YEAE03167		Short Plug	3	
43 (2-B)	YEFV02776		Shade for Volume	1	
44 (2-A)	YEAP2087		Flexible PCB	1	
45 (2-A)	YEFV011098		Insulator	1	
46 (2-A)	YEFX233290		Plate	1	
47 (2-A)	YEFR07053		Rubber Switch	2	
48 ★	XTB2 + 6GFX		⊕ Screw,Tapping 2mmφ×6mm	2	
49 (3-A)	YEAP2088		Flexible PCB	1	
50 (2-A)	YEFS01827		Pad for LCD	1	
51 (3-B)	YEFR04384		Illumination Cap	1	
52 (1-C)	YEP0PT6229A0		PCB w/Component	1	NLA
53 (1-A)	YEP0PT5394A0		PCB w/Component	1	NLA
54 (3-A)	YEP0PT5395A0		PCB w/Component	1	NLA
55 (2-C)	YEP0PT5409A0		PCB w/Component	1	NLA
56 (3-C)	EMCP26196A		Connector	1	

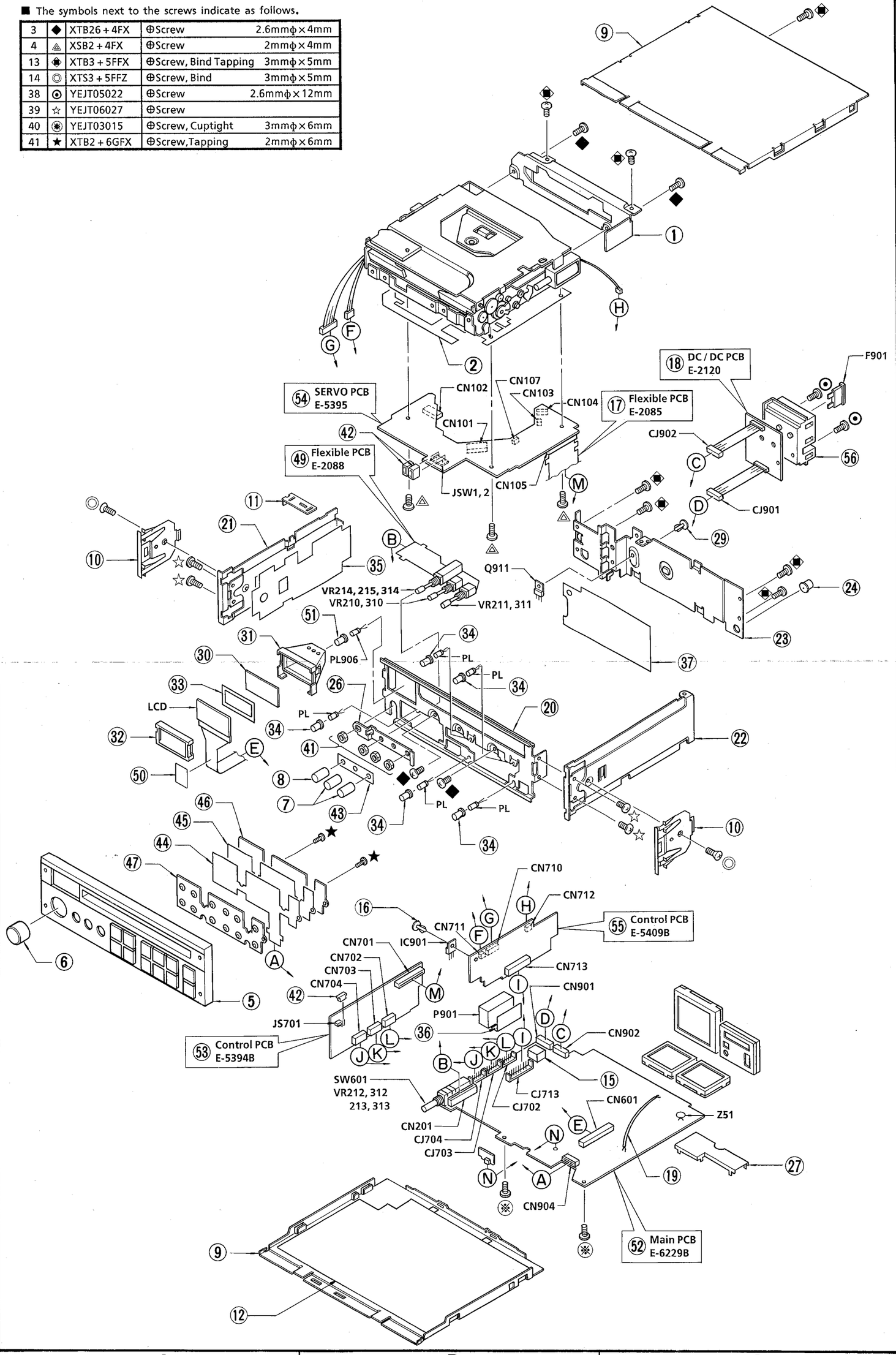
Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
					11012
CD PLAYER PARTS					[11-11-88]
[AP2026A]			**PHOTO BLOCK**		
Q1 to 3	PN147		Photo Transistor	3	
R11 to 13	ERDS2TJ223		22k ohms 1/4W Carbon	3	
CN3	EMCZ0813D60		8P Jack	1	
[AP2027]			LED BLOCK		
D1 to 3	LN62S		LED	3	
R21	ERDS25J151		150 ohms 1/4W Carbon	1	
SW4	YEAS08022		Emergency Switch	1	
CN2	EMCM0222D60		2P Jack	1	
			MOTOR BLOCK		
C1	ECQB1H103JZ		0.01 MFD 50WV Polyester	1	
			MECHANICAL PARTS		
201 (1-A)	YASAK01066		DC Motor Ass'y	1	
202 (2-C)	YEAX1065B		Solenoid Coil	1	
203(2-A)(1-B)	XUC2V		E-Ring	3	
204 (1-B)	YEFX014008		Snap Ring	2	
205 (1-A)(1-C)	YEFX014007		Snap Ring	2	
206	YEJE01004		E-Ring	12	
207 (1-C)	YEJE01003		E-Ring	1	
208 (3-B)	YEFX0051309		Suspension Spring, RL	1	
209 (3-B)	YEFX0051307		Suspension Spring, FL	1	
210 (3-A)	YEFX0051308		Suspension Spring, FR	1	
211 (3-B)	YEFX0051310		Suspension Spring, RR	1	
212 (1-C)	YEFX0051374		Feeder Arm Spring	1	
213 (2-C)	YEFX0051340A		Solenoid Spring	1	

EXPLODED VIEW (UNIT)

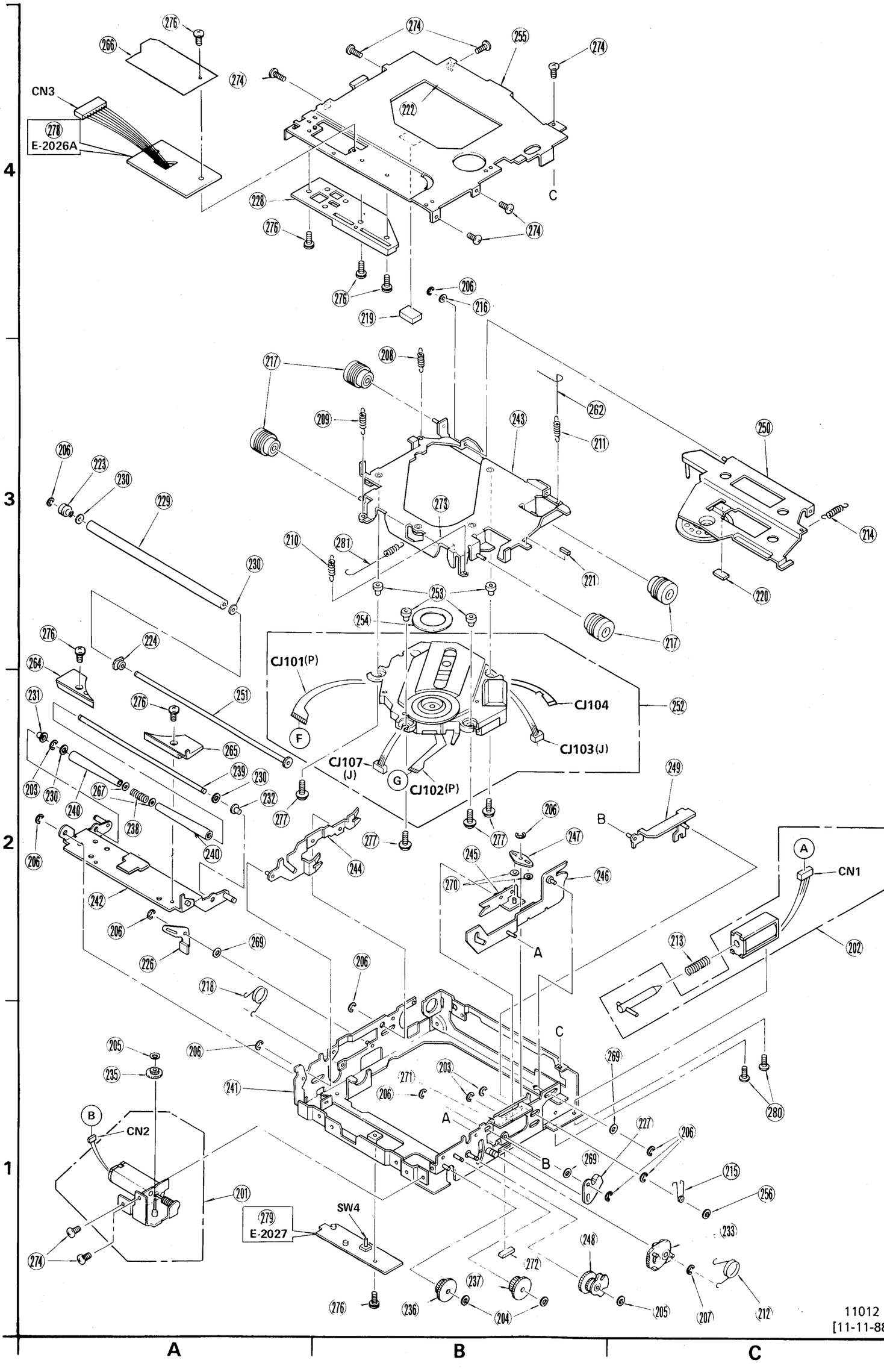
■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST

■ The symbols next to the screws indicate as follows.

3	◆	XTB26 + 4FX	⊕Screw	2.6mmϕ × 4mm
4	◬	XSB2 + 4FX	⊕Screw	2mmϕ × 4mm
13	❁	XTB3 + 5FFX	⊕Screw, Bind Tapping	3mmϕ × 5mm
14	◎	XTS3 + 5FFZ	⊕Screw, Bind	3mmϕ × 5mm
38	⊙	YEJT05022	⊕Screw	2.6mmϕ × 12mm
39	☆	YEJT06027	⊕Screw	
40	❀	YEJT03015	⊕Screw, Cuptight	3mmϕ × 6mm
41	★	XTB2 + 6GFX	⊕Screw,Tapping	2mmϕ × 6mm



EXPLODED VIEW(CD DECK)



MODEL CQ-DV182A

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
214 (3-C)	YEFX0051410		Clamp Arm Spring	1	
215 (1-C)	YEFX0051198		Lock Lever Spring	1	
216 (4-B)	YEFX0051221		Shock Absorber Spring	1	
217 (3-A)(3-C)	YEFS04371B		Rubber Dumper	4	
218 (2-A)	YEFX0051374		Feeder Arm Spring (L)	1	
219 (4-B)	YEFS01748A		Clamp Pressure Pad	1	
220 (3-C)	YEFS01750		Clamp Pad	1	
221 (3-B)	YEFS01739		Pad	1	
222 (4-B)	YEFS01749A		Arm Pad	1	
223 (3-A)	YEFW04089B		Roller Gear Shaft (L)	1	
224 (3-A)	YEFW04090B		Roller Gear Shaft (R)	1	
226 (2-A)	YEFX046931		Lock Lever LB	1	
227 (1-C)	YEFX046924		Lift Lever	1	
228 (4-A)	YEFX239343B		Upper Guide	1	
229 (3-A)	YEFX218244		Rubber Roller (A)	1	
230	YEJW05013		Polyslider	4	
231 (2-A)	YEFW04096		Roller Shaft (L)	1	
232 (2-A)	YEFW04104		Roller Shaft (R)	1	
233 (1-C)	YEFX003346B		Cam Gear	1	
235 (1-A)	YEFX003350A		Loading Gear 1	1	
236 (1-B)	YEFX003351		Loading Gear 2	1	
237 (1-B)	YEFX003352		Loading Gear 3	1	
238 (2-A)	YEFX0051364		CD Roller Spring	1	
239 (2-A)	YEFW061308		CD Roller Shaft	1	
240 (2-A)	YEFX218245		CD Roller	2	
241 (1-A)	YEFA01956B		Main Chassis Ass'y	1	
242 (2-A)	YEFX249341A		Disc Feeder Arm Ass'y	1	
243 (3-B)	YEFX018161B		Suspension Ass'y	1	
244 (2-B)	YEFX046925		Lock Lever LA Ass'y	1	
245 (2-B)	YEFX0461159		Lock Lever RB Ass'y	1	
246 (2-B)	YEFX046929A		Lock Lever RA Ass'y	1	
247 (2-B)	YEFX046969		Inter Lever Ass'y	1	
248 (1-B)	YEFX003373		Loading Gear Ass'y	1	
249 (2-C)	YEFX046960		Lock Lever Ass'y	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
250 (3-C)	YEFX249342B		Clamp Arm Ass'y	1	
251 (2-A)	YEFX003369		Roller Gear 1 Ass'y	1	
252 (2-C)	SODD44Z-2		Optical Pick-Up Deck Ass'y	1	
253 (3-B)	YEFW07133		Suspension Collar	4	
254 (3-B)	YEFS01740		Pad	1	
255 (4-B)	YEFA011030A		Upper Chassis	1	
262 (3-B)	YEFX0051313		Unbalance Spring	1	
264 (2-A)	YEFX239332A		Disc Guide (L)	1	
265 (2-A)	YEFX239333A		Disc Guide (R)	1	
266 (2-A)	YEFX239345		Shade Plate	1	
267 (2-A)	YEJW05087		Polyslider	2	
269	YEJW05088		Polyslider	3	
270	YEJW05027		Polyslider	2	
271 (1-B)	YEFS01727		Lock Pad	1	
272 (1-B)	YEFS01728		Lift Pad	1	
274	XSB2 + 3FX		⊕Screw, Bind	8	
276	XYN2 + C4FX		⊕Screw w/Washer 2mmϕ×4mm	7	
277 (2-B)	XYN26 + F8FX		⊕Screw w/Washer 2.6mmϕ×8mm	4	
278 (4-A)	YEAP2026A		Photo PCB	1	
279 (1-A)	YEAP2027		LED PCB	1	
280	XYN26 + C4FX		⊕ Screw w/washer	2	
281 (3-B)	YEFX0051405		Offset Spring	1	

ICs & TRANSISTORS

[AP6229B] **MAIN BLOCK**

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
P136	YEP0PTP136B0		FM IF	1	
P149	YEP0PTP149D0		PNL/MPX	1	
P519	YEP0PTP519D0		AM Front End	1	
P526	YEP0PTP526D0		FM Front End Package	1	
IC201	YEAMM5218F		OP Amp	1	
IC210	YEAMTK15021		Analog Switch	1	
IC211	YEAMM5218F		OP Amp	1	
IC212	YEAMM5218FT		OP Amp	1	
IC213	YEAMPC358G		OP Amp	1	
IC214	YEAMHLAL273		Low Pass Filter	1	
IC215	YEAMPC4570		OP Amp	1	
IC221	YEAMM5218F		Analog Switch	1	
IC222	MN4066BS		Switching	1	
IC223	YEAMM5222FP		Electronic Volume	1	
IC571	YEAMTDA1579		SK/DK Control	1	
IC572	YEAMM5218F		BK Control	1	
IC601	YEAM1719G558		LSI	1	
IC602	YEAMNMC9306E		Memory	1	
IC712	AN6701S		Temperature Sense	1	
IC751	MN4053BS		Audio Signal Selector	1	
IC752	YEAMPCM56P		D/A Convertor	1	
IC753	MN4011BS		NAND	1	
IC911	YEAMPC78L07J		Voltage Regulator	1	
P901	YEAMHL54S		DC/DC Convertor	1	
Q201	YEAN2SC2785		Switching	1	
Q210	YEAN2SC3068		Switching	1	
Q211	YEANC144EKT		Switching	1	
Q212	YEAN2SC3068		Mute	1	
Q213	YEANA144EKT		Mute	1	
Q271, 272	YEAN2SC2785		Switching	2	
Q273	YEAN2SA1175		Switching	1	
Q312	YEAN2SC3068		Switching	1	
Q313	YEANC144EK		Switching	1	
Q551	YEANC1623		FM AGC Control	1	
Q552	YEAN2SC2785		SSC	1	
Q553	YEANA812		Power Control	1	
Q554	YEANC1623		Switching	1	
Q601	YEAN2SA1175		Switching	1	
Q602	YEAN2SK336		Low Pass Filter	1	
Q851	YEAN2SC2785		SSC	1	
Q852	YEANC1623		AM AGC	1	
Q853	YEANA812		ower Control	1	
Q854	YEANC1623		Switching	1	
Q910	YEAN2SA1327		Switching	1	
Q911	2SC1847-PQR		Voltage Regulator	1	
Q913	2SD1198		Switching	1	
Q914	YEANC114YST		Switching	1	

[AP5394B] **CONTROL BLOCK**

IC701	YEAM75108680		LSI	1	
IC702	MN6617C		LSI CD Signal Processing	1	
IC703	YEAM3517ML15		16K S-RAM	1	
IC704	AN8371S		PLL	1	
IC707, 708	MN1280Q		Reset	2	

[AP5395] **SERVO BLOCK**

IC101	AN8290S		Spindle Driver	1	
IC102	AN8370S		Servo Control	1	
IC103	AN8375S		PWM Driver	1	
IC104	AN6552S		OP Amp	1	
IC105	MN4066BS		Switching	1	
Q101	2SD601		Switching	1	
Q102	YEANA124EKT		Switching	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
[AP5409B]			**POWER BLOCK**		
IC710	MN4584BS		Switching	1	
IC711	YEAMM54544L		Motor Driver	1	
IC901	YEAMUPC78M05		Voltage Regulator	1	
IC902	YEAMM5231		Voltage Regulator	1	
IC903	YEAMPC78L05J		Voltage Regulator	1	
IC904	YEAMM5231		Voltage Regulator	1	
IC950	AN78N10		Voltage Regulator	1	
Q701	YEANC144WKT		Switching	1	
Q702	2SD1244		Switching	1	
Q703	YEANDTC144S		Switching	1	
Q704	YEANDTA144S		Switching	1	
Q705	YEANC1623		Switching	1	
Q901	2SC1874-PQR		Voltage Regulator	1	
Q902	YEANC114YKT		Switching	1	
Q903	2SD1198		Switching	1	
Q904, 905	YEANC1623		Switching	2	
Q906	YEANC114YKT		Switching	1	
Q907	YEANC144WKT		Switching	1	
Q908	2SB929PQ		Switching	1	
Q950,951	YEANC144WKT		Switching	2	
Q952	YEAN2SB810		Switching	1	

DIODES

[AP6229B]			**MAIN BLOCK**		
D201	MA150			1	
D202	MA1047		Zener Diode	1	
D203 to 206	MA4027		Zener Diode	4	
D601 to 605	MA150			4	
D606	MA150			1	
D607 to 610	MA165			4	
D611	MA1100		Zener Diode	1	
D612, 613	MA151K			2	
D801	MA165			1	
D802	MA151WK			1	
D804	MA151WK			1	
D903	YEADDSM1A2			1	
D913	YEADDSM1A2			1	
D915	YEADDSM1A2			1	
D916	MA150			1	
D980	YEADD5A3A2			1	
ZD701	YEADHZ5A3			1	
ZD914	YEADRD91EB2			1	
[AP5395]			**SERVO BLOCK**		
D101to 104	MA153			1	
D105,106	MA721TX			2	
D107,108	MA151WK			2	
[AP5409B]			**POWER BLOCK**		
D701	YEADDSM1A2			1	
D705	MA165			1	
D901	MA151K			1	
D902, 921	YEADDSM1A2			2	
ZD702	MA1068MH		Zener Diode (6.8V)	1	
ZD901	YEADRD56JB3		Zener Diode (5.6V)	1	

CAPACITORS

[AP6229A]			**MAIN BLOCK**		
C200, 201	YECSV1AT105R		1 MFD 10WV Chip Tantal	2	
C202	YECUS1H121JM		120 PF 50WV Chip	1	
C203, 204	ECEA1CKS100		10 MFD 16WV Electrolytic	2	
C205	ECEA0JKS470		47 MFD 6.3WV Electrolytic	1	
C210	YECSV1AT225R		2.2 MFD 10WV Chip Tantal	1	
C211, 212	YECUS1H393ZF		0.039 MFD 50WV Chip	2	

MODEL CQ-DV182A

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C213	YECUS1H561JM		560 PF 50WV Chip	1	
C214	YECUV1H151JM		150 PF 50WV Chip	1	
C215	ECEA1HKS0R1		0.1 MFD 50WV Electrolytic	1	
C216	YECSV1VT334R		0.33 MFD 35WV Chip Tantal	1	
C217	ECEA1HKS0R1		0.1 MFD 50WV Electrolytic	1	
C218	YECUS1H390JM		39 PF 50WV Chip	1	
C219, 220	ECEA0JKS220		22 MFD 6.3WV Electrolytic	2	
C221	YECUS1H102KX		0.001 MFD 50WV Chip	1	
C222	YECSV1VT334R		0.33 MFD 35WV Chip Tantal	1	
C225	YECUS1H153KX		0.015 MFD 50WV Chip	1	
C227	ECEA1CKS100		10 MFD 16WV Electrolytic	1	
C229	ECEA1CK101		100 MFD 16WV Electrolytic	1	
C230	ECEA1AK101		100 MFD 10WV Electrolytic	1	
C235	YECUS1H683ZF		0.068 MFD 50WV Chip	1	
C236	ECQV1H104JZ		0.1 MFD 50WV Polyester	1	
C237	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C238	ECEA1CKS220		22 MFD 16WV Electrolytic	1	
C239	ECEA1HKSR33		0.33 MFD 50WV Electrolytic	1	
C240	ECEA1CKS220		22 MFD 16WV Electrolytic	1	
C245	ECEA1CKS100		10 MFD 16WV Electrolytic	1	
C246	YECUS1H470JM		47 PF 50WV Chip	1	
C247	ECEA1CKS220		22 MFD 16WV Electrolytic	1	
C248	ECEA0JK221		220 MFD 6.3WV Electrolytic	1	
C249	YECUS1H102KX		1000PF 50WV Chip	1	
C250	YECUS1H471JM		470 PF 50WV Chip	1	
C251, 252	YECUS1H102KX		1000PF 50WV Chip	2	
C253	ECEA1HKS010		1 MFD 50WV Electrolytic	1	
C254	ECEA0JKS220		22 MFD 6.3WV Electrolytic	1	
C260	ECEA0JK221		220 MFD 6.3WV Electrolytic	1	
C261, 262	YECUS1C224ZF		0.22 MFD 16WV Chip	2	
C263	ECEA1CK220		22 MFD 16WV Electrolytic	1	
C271, 272	ECEA1AKS101		100 MFD 10WV Electrolytic	2	
C273	ECEA1CKS100		10 MFD 16WV Electrolytic	1	
C274	YECUS1E104ZF		0.1 MFD 25WV Chip	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C275, 276	YECUS1H103KX		0.01 MFD 50WV Chip	2	
C277	ECEA0JKS220		22 MFD 6.3WV Electrolytic	1	
C278, 279	YECUS1H103KX		0.01 MFD 50WV Chip	2	
C288	ECEA1HKS010		1 MFD 50WV Electrolytic	1	
C290	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C292	ECEA1AKS101		100 MFD 10WV Electrolytic	1	
C300, 301	YECSV1AT105R		1 MFD 10WV Chip Tantal	2	
C302	YECUS1H121JM		120 PF 50WV Chip	1	
C303, 304	ECE1CKS100		10 MFD 16WV Electrolytic	2	
C310	YECSV1AT225R		2.2 MFD 10WV Chip Tantal	1	
C311, 312	YECUS1H393ZF		0.039 MFD 50WV Chip	2	
C313	YECUS1H561JM		560 PF 50WV Chip	1	
C314	YECUS1H151JM		150 PF 50WV Chip	1	
C315	ECEA1HKS0R1		0.1 MFD 50WV Electrolytic	1	
C316	YECSV1VT334R		0.33 MFD 35WV Chip Tantal	1	
C317	ECEA1HKS0R1		0.1 MFD 50WV Electrolytic	1	
C318	YECUS1H390JM		39 PF 50WV Chip	1	
C319	ECEA0JKS220		22 MFD 6.3WV Electrolytic	1	
C321	YECUS1H102KX		0.001 MFD 50WV Chip	1	
C325	YECUS1H153KX		0.015 MFD 50WV Chip	1	
C326	ECEA1CK101		100 MFD 16WV Electrolytic	1	
C330	ECEA0JKS220		22 MFD 6.3WV Electrolytic	1	
C335	ECEA1AKS330		33 MFD 10WV Electrolytic	1	
C345	ECEA1CKS100		10 MFD 16WV Electrolytic	1	
C346	YECUV1H470JM		47 PF 50WV Chip	1	
C347	ECEA1CKS220		22 MFD 16WV Electrolytic	1	
C348	ECEA0JK221		220 MFD 6.3WV Electrolytic	1	
C349	YECUS1H102KX		1000 PF 50WV Chip	1	
C350	YECUS1H471JM		470 PF 50WV Chip	1	
C351	YECUS1H102KX		0.001 MFD 50WV Chip	1	
C353	ECEA1HKS010		1 MFD 50WV Electrolytic	1	
C354	ECEA0JKS220		22 MFD 6.3WV Electrolytic	1	
C371	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C372	ECEA0JKS101		100 MFD 6.3WV Electrolytic	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C510	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C520	ECEA1HKS010		1 MFD 50WV Electrolytic	1	
C521	YECSV1AT475R		4.7 MFD 10WV Chip Tantal	1	
C551	YECUS1E223KX		0.022 MFD 25WV Chip	1	
C552	YECUS1H221JM		220 PF 50WV Chip	1	
C553	YECUS1H471JM		470 PF 50WV Chip	1	
C554	YECUS1E223KX		0.022 MFD 25WV Chip	1	
C555	YECUS1H221JM		220 PF 50WV Chip	1	
C556	ECEA1AKS101		100 MFD 10WV Electrolytic	1	
C557	ECEA1HKS010		1 MFD 50WV Electrolytic	1	
C559	YECUS1H393ZF		0.039 MFD 50WV chip	1	
C560	YECUS1H473ZF		0.047 MFD 50WV Chip	1	
C561, 562	YECUS1H153KX		0.015 MFD 50WV Chip	2	
C563	YECUS1E223KX		0.022 MFD 25WV Chip	1	
C564	YECUV1AT105R		1 MFD 10WV Chip	1	
C571	ECQV1H473JZ		0.047 MFD 50WV Polyester	1	
C572	ECQV1H333JZ		0.033 MFD 50WV Polyester	1	
C573	ECEA1EKS4R7		4.7 MFD 25WV Electrolytic	1	
C574, 575	ECQV1H683JZ		0.068 MFD 50WV Polyester	2	
C576	YECUS1C154ZF		0.15 MFD 16WV Chip	1	
C577	YECUS1H102KX		0.001 MFD 50WV Chip	1	
C578	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C579	YECUS1C154ZF		0.15 MFD 16WV Chip	1	
C580, 581	ECQV1H683JZ		0.068 MFD 50WV Polyester	2	
C582	YECSV1AT105R		1 MFD 10WV Chip Tantal	1	
C601	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C602	ECEA0JKS101		100 MFD 6.3WV Electrolytic	1	
C603	YECUV2A103KX		0.01 MFD 100WV Ceramic	1	
C604, 605	YECUS1H220JM		22 PF 50WV Chip	2	
C606	YEE05Y103N		0.01 MFD 50WV Ceramic	1	
C607	ECSF1VE475		4.7 MFD 35WV Tantalum	1	
C608, 609	ECEA1AKS101		100 MFD 10WV Electrolytic	2	
C610	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C621	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C622	YECUV2A103KX		0.01 MFD 100WV Chip	1	
C623	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C651	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C653	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C751	ECEA0JK221		220 MFD 6.3WV Electrolytic	1	
C752	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C753	ECEA1CK100		10 MFD 16WV Electrolytic	1	
C754	ECEA1CKS100		10 MFD 16WV Electrolytic	1	
C755	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C761, 762	YECUS1C224ZF		0.22 MFD 16WV Chip	2	
C810	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C820	ECEA1HKS010		1 MFD 50WV Electrolytic	1	
C851	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C852	YECUS1H102KX		0.001 MFD 50WV Chip	1	
C853	ECSF1CE226		22 MFD 16WV Tantalum	1	
C907	ECEA1AU471		470 MFD 10WV Electrolytic	1	
C920	ECEA1CU222		2200 MFD 16WV Electrolytic	1	
C921	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C922	ECEA1AKS101		100 MFD 10WV Electrolytic	1	
C923	ECEA1CK101		100 MFD 16WV Electrolytic	1	
C924	ECEA0JU471		470 MFD 6.3WV Electrolytic	1	
C939	YECSV1VT334R		0.33 MFD 35WV Chip Tantal	1	
C940	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C980	ECEA1CU102		1000 MFD 16WV Electrolytic	1	
C981	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
CS901, 902	YECCL55S222T		2200PF Feedthrough	2	
[AP5394B]			**CONTROL BLOCK**		
C701, 702	YECUS1H330JM		33 PF 50WV Chip	2	
C703, 704	YECUS1H100DM		10 PF 50WV Chip	2	
C705	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C706	ECEA0JK221		220 MFD 6.3WV Electrolytic	1	
C707	YECUS1E223KX		0.022 MFD 25WV Chip	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C708	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C709	ECEA1AK330		33 MFD 10WV Electrolytic	1	
C710, 711	YECUS1H103KX		0.01 MFD 50WV Chip	2	
C712	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C713	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C714	YECUS1H150JM		15 PF 50WV Chip	1	
C715	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C716	YECUS1H123KX		0.01 MFD 50WV Chip	1	
C717	ECEA1HSN2R2		2.2 MFD 50WV Electrolytic	1	
C718	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C719	YECUS1H220JM		22 PF 50WV Chip	1	
C720	YECUS1H333ZF		0.033 MFD 50WV Chip	1	
C721	YECUS1H102KX		0.012 MFD 50WV Chip	1	
C722	YECSV1ET474R		0.47 MFD 25WV Chip Tantal	1	
C723	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C724, 725	YECUS1H681JM		680 PF 50WV Chip	2	
C726	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C727	ECEA0JU331		330 MFD 6.3WV Electrolytic	1	
C728	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C735	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C780	ECEA0JU331		330 MFD 6.3WV Electrolytic	1	
C791, 792	YEE05Y103N		0.01 MFD 50WV Ceramic	2	
[AP5395]			**SERVO BLOCK**		
C101	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C102	ECEV1VE330SP		33 MFD 35WV Electrolytic	1	
C103	YECSV1ET474R		0.47 MFD 25WV Chip Tantal	1	
C104	YECUS1E273KX		0.027 MFD 25WV Chip	1	
C105	YECUS1E223KX		0.022 MFD 25WV Chip	1	
C106	YECUS1H152KX		1500 PF 50WV Chip	1	
C107	YECSV1CT106R		10 MFD 16WV Chip Tantal	1	
C108	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C109	YECUS1H681JM		680 PF 50WV Chip	1	
C110, 111	YECUS1H102KX		0.001 MFD 50WV Chip	2	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C112	YECUS1H220JM		22PF 50WV Chip	1	
C113	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C114	YECSV1CT105R		1 MFD 16WV Chip Tantal	1	
C115	YECSV1CT106R		10 MFD 16WV Chip Tantal	1	
C116	YECUS1H222KX		0.0022 MFD 50WV Chip	1	
C117	YECSV0JT476R		47 MFD 6.3WV Chip Tantal	1	
C118, 119	YECUS1H102KX		1000 PF 50WV Chip	2	
C120, 121	YECUS1H271JM		270 PF 50WV Chip	2	
C122, 123	YECUS1H102KX		1000 PF 50WV Chip	2	
C124	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C125	YECUS1H681JM		680 PF 50WV Chip	1	
C126	ECEV0JV220SR		22 MFD 6.3WV Electrolytic	1	
C127	YECSV1CT105R		1 MFD 16WV Chip Tantal	1	
C128	YECUS1H471JM		470 PF 50WV Chip	1	
C129	YECUS1E333KX		0.033 MFD 25WV Chip	1	
C130	YECUS1H682KX		0.0068 MFD 50WV Chip	1	
C131	YECUS1H182KX		0.0018 MFD 50WV Chip	1	
C132	YECSV1CT105R		1 MFD 16WV Chip Tantal	1	
C133, 134	ECEV1EV330SP		33 MFD 25WV Electrolytic	2	
C135, 136	YECUS1E104ZF		0.1 MFD 25WV Chip	2	
C137	YECUS1H153KX		0.015 MFD 50WV Chip	1	
C138	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C139	YECUS1E223KX		0.022 MFD 25WV Chip	1	
C140	YECUS1H392KX		0.0039 MFD 50WV Chip	1	
C141	YECSVICT225R		2.2 MFD 16WV Chip Tantal	1	
C142	YECUS1E333KX		0.033 MFD 25WV Chip	1	
C143	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C144	YECUS1H391JM		390 PF 50WV Chip	1	
C145	YECUS1E223KX		0.022 MFD 25WV Chip	1	
C146	ECEV1HN010SR		1 MFD 50WV Electrolytic	1	
C147, 148	YECUS1E104ZF		0.1 MFD 25WV Chip	2	
C149	YECUS1E273KX		0.027 MFD 25WV Chip	1	
C150	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C151	ECEV1EN3R3SR		3.3 MFD 25WV Electrolytic	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C152	YECUS1H152KX		1500 PF 50WV Chip	1	
C153, 154	YECUS1C224ZF		0.22 MFD 16WV Chip	2	
C155	YECUS1H103KX		0.01 MFD 50WV Chip	1	
C156, 157	YECSV1CT105R		1 MFD 16VW Chip Tantal	2	
C158	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
C159	YECUV1E223KX		0.022 MFD 25WV Chip	1	
C160	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C161	ECEA0JV101SP		100 MFD 6.3WV Electrolytic	1	
C162	YECUS1H681JM		680 PF 50WV Chip	1	
C163 to165	ECEV1EN220SP		22 MFD 25WV Electrolytic	3	
C166	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C167, 168	YECUS1C224ZF		0.22 MFD 16WV Chip	1	
[AP5409B]			**POWER BLOCK**		
C730 to 732	YECUS1E104ZF		0.1 MFD 25WV Chip	3	
C901	ECEA1CK470		47 MFD 16WV Electrolytic	1	
C902	ECEA1CK100		10 MFD 16WV Electrolytic	1	
C903	ECEA0JK470		47 MFD 6.3WV Electrolytic	1	
C904	ECEA1CU470		47 MFD 16WV Electrolytic	1	
C905	YECSV1AT105R		1 MFD 10WV Chip Tantal	1	
C906	YECUV1E104ZF		0.1 MFD 25WV Chip	1	
C908	ECEA0JU471		470 MFD 6.3WV Electrolytic	1	
C909	ECEA0JK470		47 MFD 6.3WV Electrolytic	1	
C910	YECSV1AT105R		1 MFD 10WV Chip Tantal	1	
C911	YECUS1E104ZF		0.1 MFD 25WV Chip	1	
C942	ECEA1AU471		470 MFD 10WV Electrolytic	1	
C950	ECEA1AK470		47 MFD 10WV Electrolytic	1	
CS950	YECCL55S222T		2200 PF Feedthrough	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
			RESISTORS		
[E-6229B]			**MAIN BLOCK**		
R201	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R202	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R203	ERJ6GEYJ823		82k ohms 1/10W Chip	1	
R204	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R205	ERJ8GCYJ222		2.2k ohms 1/8W Chip	1	
R206	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R207	ERJ6GEYJ822		8.2k ohms 1/10W Chip	1	
R210	ERJ6GEYJ183		18k ohms 1/10W Chip	1	
R211	ERJ6GEYJ392		3.9k ohms 1/10W Chip	1	
R212	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R213	ERJ8GCYJ183		18k ohms 1/8W Chip	1	
R214	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R215	ERJ6GEYJ562		5.6k ohms 1/10W Chip	1	
R216	ERJ6GEYJ101		100 ohms 1/10W Chip	1	
R217	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R218	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R219	ERJ6GEYJ823		82k ohms 1/10W Chip	1	
R220	ERJ6GEYJ681		680 ohms 1/10W Chip	1	
R221	ERJ6GEYJ820		82 ohms 1/10W Chip	1	
R222, 223	ERJ6GEYJ821		820 ohms 1/10W Chip	2	
R224	ERJ6GEYJ563		56k ohms 1/10W Chip	1	
R230	ERJ6GEYJ222		2.2k ohms 1/10W Chip	1	
R231	ERJ6GEYJ393		39k ohms 1/10W Chip	1	
R233	ERJ8GCYJ822		8.2k ohms 1/8W Chip	1	
R234	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R235	ERJ6GEYJ471		470 ohms 1/10W Chip	1	
R240	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R241	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R242	ERJ6GEYJ153		15k ohms 1/10W Chip	1	
R243	ERJ6GEYJ334		330k ohms 1/10W Chip	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R244	ERJ6GEYJ333		33k ohms 1/10W Chip	1	
R246	ERJ6GEYJ125		1.2M ohms 1/10W Chip	1	
R247	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R248	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R249	ERJ6GEYJ180		18 ohms 1/10W Chip	1	
R250	ERJ6GEYJ101		100 ohms 1/10W Chip	1	
R251	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R252	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R254	ERJ6GEYJ683		68k ohms 1/10W Chip	1	
R255	ERJ6GEYJ134		130k ohms 1/10W Chip	1	
R256	ERJ6GEYJ274		270k ohms 1/10W Chip	1	
R257	ERJ6GEYJ331		330 ohms 1/10W Chip	1	
R258	ERJ6GEYJ124		120k ohms 1/10W Chip	1	
R260	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R261	ERJ6GEYJ222		2.2k ohms 1/10W Chip	1	
R262	ERJ8GCYJ152		1.5k ohms 1/8W Chip	1	
R264	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R265	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R266	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R267	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R268 to 270	ERJ6GEYJ472		4.7k ohms 1/10W Chip	3	
R271	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R272	ERJ6GEYJ222		2.2k ohms 1/10W Chip	1	
R273	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R274	ERJ6GEYJ183		18k ohms 1/10W Chip	1	
R275	ERJ6GEYJ821		820 ohms 1/10W Chip	1	
R276	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R277	ERJ8GEYJ273		27k ohms 1/8W Chip	1	
R278	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R279, 280	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
R281	ERJ6GEYJ562		5.6k ohms 1/10W Chip	1	
R282	ERJ6GEYJ123		12k ohms 1/10W Chip	1	
R283	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R284, 285	ERJ6GEYJ103		10k ohms 1/10W Chip	2	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R286, 287	ERJ6GEYJ223		22k ohms 1/10W Chip	2	
R288, 289	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
R290	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R291	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R292	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R295	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R296	ERJ6GEYJ563		56k ohms 1/10W Chip	1	
R301	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R302	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R303	ERJ6GEYJ823		82k ohms 1/10W Chip	1	
R304	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R305	ERJ8GCYJ222		2.2k ohms 1/8W Chip	1	
R310	ERJ6GEYJ183		18k ohms 1/10W Chip	1	
R311	ERJ6GEYJ392		3.9k ohms 1/10W Chip	1	
R312	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R313	ERJ6GEYJ183		18k ohms 1/10W Chip	1	
R314	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R317	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R318	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R319	ERJ6GEYJ823		82k ohms 1/10W Chip	1	
R320	ERJ6GEYJ681		680 ohms 1/10W Chip	1	
R321	ERJ6GEYJ820		82 ohms 1/10W Chip	1	
R322, 323	ERJ6GEYJ821		820 ohms 1/10W Chip	2	
R324	ERJ6GEYJ563		56k ohms 1/10W Chip	1	
R330	ERJ6GEYJ222		2.2 k ohms 1/10W Chip	1	
R331	ERJ6GEYJ393		39k ohms 1/10W Chip	1	
R360	ERJ8GEYJ102		1k ohms 1/8W Chip	1	
R361	ERJ6GEYJ222		2.2k ohms 1/10W Chip	1	
R362	ERJ8GEYJ152		1.5k ohms 1/8W Chip	1	
R364	ERJ6CGYJ103		10k ohms 1/10W Chip	1	
R366	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R367	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R368, 369	ERJ6GEYJ472		4.7k ohms 1/10W Chip	2	
R370	ERJ6GEYJ224		220k ohms 1/10W Chip	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R371	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R372	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R395	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R396	ERJ6GEYJ563		56k ohms 1/10W Chip	1	
R503	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R504	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R510	ERJ6GEYJ333		33k ohms 1/10W Chip	1	
R551	ERJ6GEYJ184		180k ohms 1/10W Chip	1	
R552	ERJ6GEYJ101		100 ohms 1/10W Chip	1	
R553	ERJ6GEYJ271		270 ohms 1/10W Chip	1	
R554	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R555	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R556	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R557	ERJ8GEYJ223		22k ohms 1/8W Chip	1	
R558	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R559	ERJ6GEYJ823		82k ohms 1/10W Chip	1	
R560	ERJ6GEYJ274		270k ohms 1/10W Chip	1	
R563	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R564	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R565	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R569	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R571	ERJ6GEYJ124		120k ohms 1/10W Chip	1	
R572	ERJ6GEYJ684		680k ohms 1/10W Chip	1	
R573	ERJ6GEYJ393		39k ohms 1/10W Chip	1	
R574	ERJ6GEYJ683		68k ohms 1/10W Chip	1	
R575	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R576	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R577	ERJ6GCYJ393		39k ohms 1/10W Chip	1	
R578	EROS2TKF5510		551 ohms 100WV	1	
R579	ERJ6GEYJ684		680k ohms 1/10W Chip	1	
R580	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R581	ERJ6GEYJ124		120k ohms 1/10W Chip	1	
R582, 583	ERJ6GEYJ683		68k ohms 1/10W Chip	2	
R584	ERJ8GCYJ103		10k ohms 1/8W Chip	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R585	ERJ6GEYJ394		390k ohms 1/10W Chip	1	
R586	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R587	ERJ6GEYJ184		180k ohms 1/10W Chip	1	
R588	ERJ6GEYJ153		15k ohms 1/10W Chip	1	
R601	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R602	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R603	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R604	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R605, 606	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
R607	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R608	ERDS2TJ152		1.5k ohms 1/4W Carbon	1	
R609	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R610, 611	ERJ6GEYJ152		1.5k ohms 1/10W Chip	2	
R612	ERJ6GEYJ471		470 ohms 1/10W Chip	1	
R613	ERDS1FJ181		180 ohms 1/2W Carbon	1	
R650	ERJ8GCYJ102		1k ohms 1/8W Chip	1	
R730	ERJ6GEYJ471		470 ohms 1/10W Chip	1	
R731	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R732	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R751	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R752	ERJ8GCYJ332		3.3k ohms 1/8W Chip	1	
R753, 754	ERJ6GEYJ4R7		4.7 ohms 1/10W Chip	2	
R851	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R852	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R853	ERJ8GCYJ182		1.8k ohms 1/8W Chip	1	
R861	ERJ6GEYJ273		27k ohms 1/10W Chip	1	
R862	ERJ6GEYJ153		15k ohms 1/10W Chip	1	
R863	ERJ6GCYJ102		1k ohms 1/10W Chip	1	
R864	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R869	ERJ6GEYJ104		100k ohms 1/10W Chip	1	
R881	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R920	ERJ6GEYJ331		330 ohms 1/10W Chip	1	
R921	ERJ6GEYJ5R6		5.6 ohms 1/10W Chip	1	
R922	ERJ6GEYJ471		470 ohms 1/10W Chip	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R925, 926	ERJ6GEYJ102		1k ohms 1/10W Chip	2	
R930	ERJ6GEYJ103		10k ohms /10W Chip	1	
R934	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
FR901	ERX1SJ2R2		2.2 ohms 1W Metal Film	1	
D981 (R)	ERD25TJ151		150 ohms 1/4W Carbon	1	
[AP5394B]		**CONTROL BLOCK**			
R701	ERJ6GEYJ393		39k ohms 1/10W Chip	1	
R702	ERJ6GEYJ153		15k ohms 1/10W Chip	1	
R703	ERJ6GEYJ683		68k ohms 1/10W Chip	1	
R704, 705	ERJ6GEYJ473		47k ohms 1/10W Chip	2	
R706	ERJ6GEYJ100		10 ohms 1/10W Chip	1	
R707	ERJ6GEYJ221		220 ohms 1/10W Chip	1	
R708	ERJ6GEYJ132		1.3k ohms 1/10W Chip	1	
R709	ERJ6GEYJ333		33k ohms 1/10W Chip	1	
R710	ERJ6GEYJ331		330 ohms 1/10W Chip	1	
R711	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R712	ERJ6GEYJ562		5.6k ohms 1/10W Chip	1	
R713	ERJ6GEYJ474		470k ohms 1/10W Chip	1	
R715, 716	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
R717	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R718 to 720	ERJ6GEYJ103		10k ohms 1/10W Chip	3	
R721	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R722, 723	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
[AP5395]		**SERVO BLOCK**			
R101	ERJ8GCYJ2R2		2.2 ohms 1/8W Chip	1	
R102	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R103	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R104, 105	ERJ6GEYJ222		2.2k ohms 1/10W Chip	2	
R106	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R107	ERJ8GCYJ100		10 ohms 1/8W Chip	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R108	ERJ8GCYJ101		100 ohms 1/8W Chip	1	
R109 to 112	ERJ6GEYJ102		1k ohms 1/10W Chip	4	
R113	ERJ6GEYJ822		8.2k ohms 1/10W Chip	1	
R114, 115	ERJ6GEYJ682		6.8k ohms 1/10W Chip	2	
R116	ERJ6GEYJ822		8.2k ohms 1/10W Chip	1	
R119	ERJ6GEYJ272		2.7k ohms 1/10W Chip	1	
R120	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R121	ERJ6GEYJ124		120k ohms 1/10W Chip	1	
R122	ERJ6GEYJ392		3.9k ohms 1/10W Chip	1	
R123	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R124	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R125	ERJ6GEYJ681		680 ohms 1/10W Chip	1	
R126	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R127	ERJ6GEYJ222		2.2k ohms 1/10W Chip	1	
R128, 129	ERJ8GCYK1R8		1.8 ohms 1/8W Chip	2	
R130	ERJ6GEYJ561		560 ohms 1/10W Chip	1	
R131	ERJ6GEYJ333		33k ohms 1/10W Chip	1	
R132	ERJ6GEYJ683		68k ohms 1/10W Chip	1	
R133	ERJ6GEYJ102		1K ohms 1/10W Chip	1	
R134	ERJ6GEYJ681		680 ohms 1/10W Chip	1	
R135	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R136	ERJ6GEYJ123		12k ohms 1/10W Chip	1	
R137	ERJ6GEYJ274		270k ohms 1/10W Chip	1	
R138	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R139	ERJ6GEYJ333		33k ohms 1/10W Chip	1	
R140	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R141	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R142, 143	ERJ6GEYJ222		2.2k ohms 1/10W Chip	2	
R144, 145	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
R146	ERJ6GEYJ224		220k ohms 1/10W Chip	1	
R147	ERJ6GEYJ152		1.5k ohms 1/10W Chip	1	
R148, 149	ERJ6GEYJ224		220k ohms 1/10W Chip	2	
R150, 151	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
R152	ERJ6GEYJ684		680k ohms 1/10W Chip	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R153	ERJ6GEYJ105		1M ohms 1/10W Chip	1	
R154	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R155	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R156	ERJ6GEYJ683		68k ohms 1/10W Chip	1	
R157	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R158	ERJ6GEYJ562		5.6k ohms 1/10W Chip	1	
R159	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R160	ERJ6GEYJ154		150k ohms 1/10W Chip	1	
R161	ERJ6GEYJ473		47k ohms 1/10W Chip	1	
R180	ERJ6GEYJ223		22k ohms 1/10W Chip	1	
R181	ERJ6GEYJ561		560 ohms 1/10W Chip	1	
R190 to 192	ERJ6GEYJ4R7		4.7 ohms 1/10W Chip	3	
[AP5409B]			**POWER BLOCK**		
R733	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R734	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R735	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R736, 737	ERJ6GEYJ102		1k ohms 1/10W Chip	2	
R738	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R902	ERJ6GEYJ472		4.7k ohms 1/10W Chip	1	
R903	ERJ6GEYJ471		470 ohms 1/10W Chip	1	
R904, 905	ERJ6GEYJ563		56k ohms 1/10W Chip	2	
R906	ERJ6GEYJ103		10k ohms 1/10W Chip	1	
R907	ERJ6GEYJ682		6.8k ohms 1/10W Chip	1	
R908	ERJ6GEYJ153		15k ohms 1/10W Chip	1	
R909	ERJ6GEYJ561		560 ohms 1/10W Chip	1	
R910	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R911, 912	ERJ6GEYJ102		1k ohms 1/10W Chip	2	
R913	ERJ6GEYJ331		330 ohms 1/10W Chip	1	
R914	ERJ6GEYJ561		560 ohms 1/10W Chip	1	
R915	ERJ6GEYJ332		3.3k ohms 1/10W Chip	1	
R916	ERJ6GEYJ153		15k ohms 1/10W Chip	1	
R950	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R951	ERJ6GEYJ333		33k ohms 1/10W Chip	1	
R952	ERJ6GEYJ102		1k ohms 1/10W Chip	1	
R953, 954	ERJ6GEYJ103		10k ohms 1/10W Chip	2	
			VARIABLE RESISTORS		
VR101	YEVN412C4R7		5k ohms Semi-Fixed	1	
VR102 to 105	YEVN412C10K		10k ohms Semi-Fixed	4	
VR106	YEVN412C22K		20k ohms Semi-Fixed	1	
VR210, 310	EVU09A020B15		100k ohms Treble Control	1	
211, 311	EVU09A020B15		100k ohms Bass Control	1	
VR212, 312	EVUXXR019272		200k ohms Volume Control	1	
213, 313			50k ohms Balance Control		
w/SW101, 601			Power Switch		
VR214, 215, 314	EVUX9A020233		10k ohms Semi-Fixed	1	
VR551	EVND4MA00B55		500k ohms Semi-Fixed	1	
VR552	EVND4MA00B14		10k ohms Semi-Fixed	1	
VR553	EVND4MA00B23		2k ohms Semi-Fixed	1	
VR554	EVND4MA00B55		500k ohms Semi-Fixed	1	
VR555	EVND4MA00B54		50k ohms Semi-Fixed	1	
VR701	YEVN614C470		470 ohms Semi-Fixed	1	
			CRYSTALS		
XL601	YEXL49U04500		4.5MHz Crystal Oscilletor	1	
XL701	YEXL49U04000		Crystal Oscilletor	1	
XL702	YEXL49U16934		Crystal Oscilletor	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
			COILS		
L101	YELT45N100K			1	
L102, 103	ELC08D050			2	
L571	YELL07S175			1	
L601	YELT02C101KT			1	
L701	YELT02C470KT			1	
L901	YETQ020F078		Choke Coil	1	
L910, 912	ELEH101KA			2	
			LCD		
LCD	YEXDCM878		LCD	1	
			RELAY		
RY901	AG8023		Relay	1	

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